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FINAL

ENVIRONMENTAL IMPACT STATEMENT
Pursuant to Section 102(2)(c), P.L. 91-190 NEPA
and Section 4(f) of the DOT Act of 1966

For
Reconstruction of
Montana Forest Highway Route 61
Flathead County Route 486
Flathead County
(Portion)

This action complies with the following laws and executive orders:

Sec. 7 Endangered Species Act
Fish & Wildlife Coordination Act
Executive Order 11988
Executive Order 11990
Sec. 106 Historic Preservation Act

Abstract:

This environmental impact statement concerns the proposal to reconstruct 10 miles of Montana Forest Highway 61. The proposal begins about 12 1/2 miles north of Columbia Falls, Montana at Canyon Creek (the end of existing pavement) and proceeds northward 10.5 miles to the junction with Glacier Park Route 8 at Camas Creek. The proposal (five alternatives) includes reconstructing the existing one- to two-lane gravel road to an improved, two-lane gravel or paved road capable of safely accommodating existing and future traffic volumes. Much of the proposal lies within a recreation component of the National Wild and Scenic Rivers system. Two alternatives will affect the threatened grizzly bear and the endangered gray wolf. The preferred alternative (Alt. D) will reconstruct the existing road to a 2-lane, 35 mph, gravel standard. Alt. D will avoid jeopardizing the grizzly bear and gray wolf population.

SUBMITTED BY:

APPROVED BY:

J. L. Budwig
J. L. Budwig, Division Engineer
Central Direct Federal Division

DATE: 10 Jan 83

Fred Hempel
Fred Hempel
Director of Environmental Programs
Federal Highway Administration, Region 8

DATE: 1/14/83

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Comments concerning this final environmental impact statement must be received by March 11, 1983, and should be sent to:

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Copies of the final environmental impact statement can be examined at the following locations:

Flathead County Commission
County Courthouse
Kalispell, Montana

Federal Highway Administration
Division Office
301 S. Park Street
Helena, Montana

Federal Highway Administration
Central Direct Federal Division
555 Zang Street
Denver, Colorado

Flathead County Library
Kalispell, Montana

Whitefish Branch Library
Whitefish, Montana

Columbia Falls Branch Library
Columbia Falls, Montana

University of Montana
Main Library/Environmental Library
Missoula, Montana

U. S. Department of Agriculture
Forest Service
Flathead National Forest
Glacier View District
80 Railroad Street, East
Columbia Falls, Montana

U. S. Department of Agriculture
Forest Service
Flathead National Forest
Supervisor's Office
1935 Third Avenue East
Kalispell, Montana

U. S. Department of Agriculture
Forest Service
Regional Office
Federal Building
Missoula, Montana

Missoula City-County Library
Missoula, Montana

Montana State Library
Helena, Montana

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SUMMARY

Administrative Action

- () Draft Environmental Statement
- (X) Final Environmental Statement
- () Record of Decision

Actions Required by Other Federal Agencies

1. U.S. Forest Service -- Land transfer; permits for borrow/fill sites, gravel sources, and equipment staging sites if on National Forest land.
2. U.S. Fish and Wildlife Service -- Evaluation and biological opinion on Alternatives C, D, and E (completed). Endangered species consultation has been concluded with adoption of Alt. D as the preferred and recommended alternative.
3. Corps of Engineers -- A Section 404 permit will probably be required for locations where the new road embankment would encroach on the margin of the North Fork Flathead River; extent of encroachment is currently approximated and will be determined during the project design stage.

Other Federal Activities in the Area

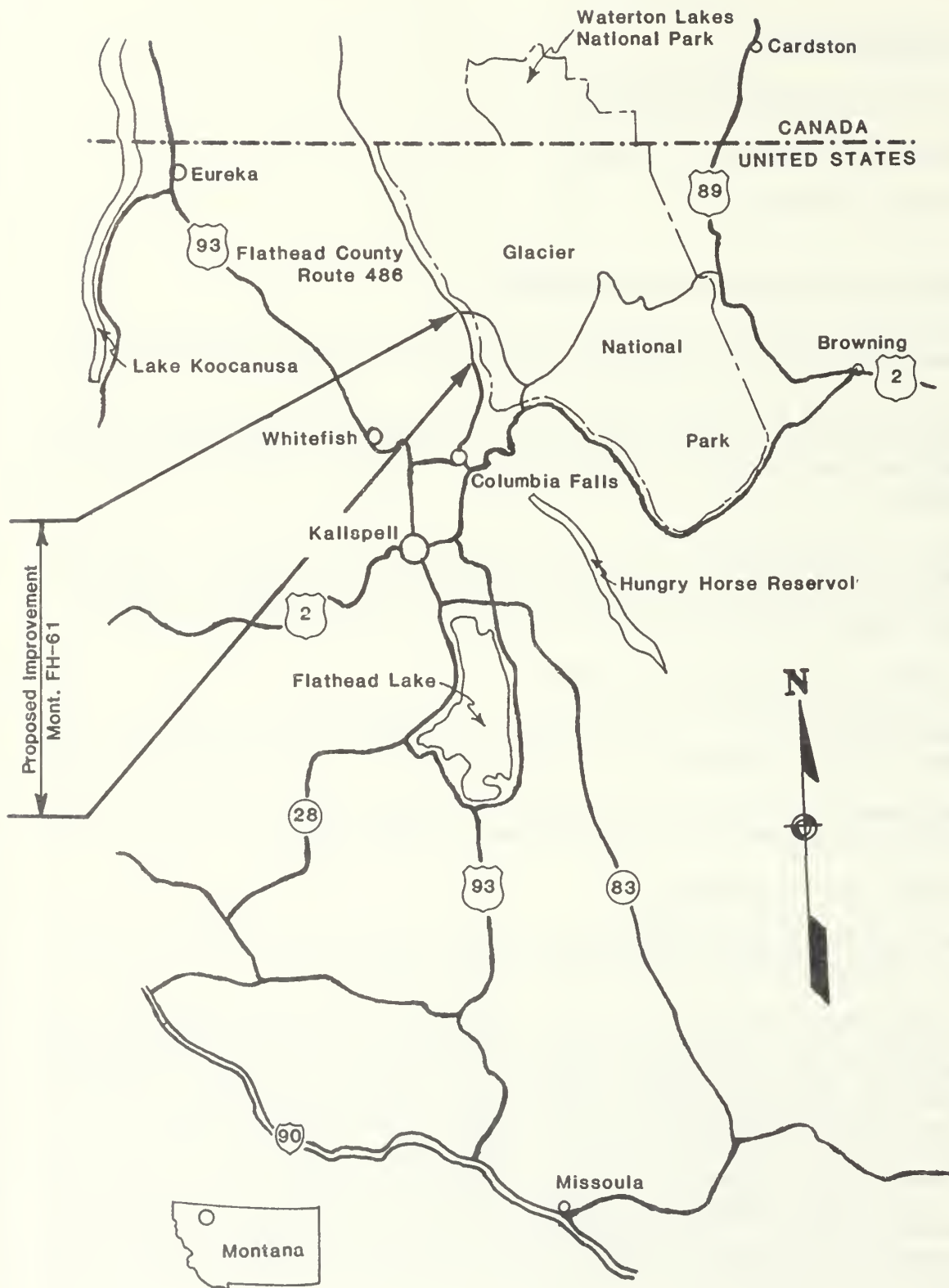
1. Improvement of U.S. 2 from the junction with Montana Route 40 (La Salle Road) through Columbia Falls to the junction with FAS 206 (old U.S. 2).
2. Improvement of U.S. 2 from Hungry Horse to West Glacier by the Montana Highway Department and Federal Highway Administration.

Description of Proposed Action

Montana Forest Highway 61 (FH-61) is located in the Glacier View District of Flathead National Forest, in Flathead County, Montana.

This route begins at U. S. Route 2 in Columbia Falls and proceeds northward 23.5 miles to the junction with Glacier National Park Route 8 at Camas Creek (commonly referred to as Camas Junction). Forest Highway Route 61 is coincident with Flathead County Route 486 to Camas Junction. County Route 486 continues north from Camas Junction 34 miles to the Canadian Border. The portion of FH-61 being considered in this statement begins 12 1/2 miles north of Columbia Falls at Canyon Creek and proceeds 10.5 miles north to Camas Junction. A 0.5-mile segment, including a bridge over Big Creek and approaches, was reconstructed in 1979 and 1980 making the actual length of proposal covered by this statement 10 miles. This section is located entirely within the North Fork Flathead River valley and is surrounded by high mountainous terrain.

VICINITY MAP



ALIGNMENT MAP

MONT. FOREST HWY. 61, NORTH FORK ROAD

GLACIER NATIONAL PARK

END PROJECT
(Camas Junction)

BEGIN PROJECT
(Canyon Creek)

FLATHEAD NATIONAL FOREST

Spot
Improvement
(Alt. E)

Fool
Hen Hill
Spot
Improvement
(Alt. E)

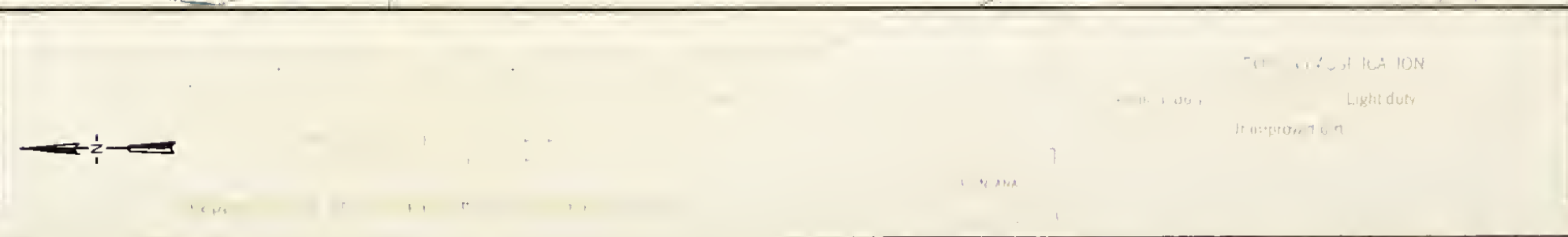
Spot
Improvement
(Alt. E)

Approximately 2000 feet of Spot
Improvements at various locations
throughout this section
(Alt. E)

Spot
Improvement
(Alt. E)

Reconstructed
in 1980

Spot Improvement
(Alternative E)



The existing road along the section under consideration is generally 20 to 24 feet wide and gravel surfaced. At several locations, the width is restricted by the river and steep terrain. This restriction narrows the road to one lane in the Fool Hen Hill area.

The proposed action involves reconstruction to a gravel, two-lane standard that will safely accommodate existing and future traffic volumes. Major construction activities will include grading, installation of new drainage structures and gravel surfacing.

The alternative actions considered for this proposal are:

- Alternative A -- No build, maintain the existing roadway at current maintenance level.
- Alternative B -- Rebuild the road to a 50 mile per hour design speed with an asphalt paved surface generally following the existing alignment.
- Alternative C -- Rebuild the road to a 35 mile per hour design speed with an asphalt paved surface closely following the existing alignment.
- Alternative D -- Rebuild the road to a 35 mile per hour design speed with a gravel surface closely following the existing alignment.
- Alternative E -- Rebuild the road to a 35 mile per hour design speed with a gravel surface only in critical areas (spot improvements).

Preferred Alternative

Based on evaluation of social needs and environmental impacts exclusive of the endangered species jeopardy opinion by the U. S. Fish and Wildlife Service, the preferred alternative would have been Alternative C. However, because of the jeopardy opinion, Alternative D is the preferred alternative.

Major Conclusions

Traffic is expected to increase on the North Fork Flathead road during the next 20 years whether it is improved or not. Traffic is expected to grow from the present level of 245 vehicles per day to somewhere between 328 and 689 vehicles per day by the year 2004 if the road is left with no improvement (Alternative A); to somewhere between 362 and 760 vehicles per day by the year 2004 with a paved Alternative (B or C); to somewhere between 353 and 742 vehicles per day by the year 2004 with Alternative D; and to somewhere between 345 and 724 vehicles per day by the year 2004 with Alternative E. These vehicle growths reflect increased use and growth in the North Fork Flathead Valley. The maximum predicted growth of vehicles for all alternatives is based on consideration of all growth-inducing factors in the North Fork Valley.

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- Alternative E -- Rebuild the road to a 35 mile per hour design speed with a gravel surface only in critical areas (spot improvements).

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The paved alternatives will provide a facility that is easier to drive, making access to recreation opportunities, residences, and forest industry locations faster and more pleasant. They will be cheaper to maintain than the unpaved alternatives and will eliminate the dust plumes that are currently generated in dry weather with each passing vehicle. These alternatives will provide the facility desired by Forest Service and Flathead County officials to carry out their administrative functions. They will reduce transportation overhead costs for industries operating in the North Fork Flathead valley. And, they will complete a paved scenic loop highway from West Glacier to Camas Junction, to Columbia Falls and back to West Glacier. Pavement up to Camas Junction will make access to the North Fork valley faster for emergency and law enforcement vehicles thus providing the capability for improved service for North Fork valley residents and visitors.

All reconstruction alternatives (B through E) will provide a facility that has a safer design than the existing road. They also will correct the existing situations where loose material from the roadway is falling into the North Fork Flathead River. The reconstruction alternatives will provide improved drainage structures and better stabilized roadway slopes to reduce the erosion and sedimentation that now occurs.

The traffic projections indicate that improving this section may increase the average daily traffic volume by as many as 71 vehicles over 20 years over the no-build alternative. This increase will come mostly from recreation and residential development. Growth in the North Fork Flathead valley will result in demands on the county for increased services. The cost of county services to this area will increase, but the land base will remain low since most of the land is federally or State owned. However, the land value will increase.

The U.S. Fish and Wildlife Service has given the following opinions on Alternatives B, C, D, and E: (1) None of the alternatives are likely to jeopardize the continued existence of the bald eagle and peregrine falcon. (2) Alternatives B and C are likely to jeopardize the continued existence of the grizzly bear and gray wolf. (3) Alternatives D and E are not likely to jeopardize the continued existence of the grizzly bear and gray wolf. The proposal will pass through the big game wintering range between Big Creek and Camas Junction removing approximately 12.5 acres of habitat.

Fifty-eight percent of this proposal lies within a recreation component of the Wild and Scenic Rivers system. The proposal will use land from this designated area and will require a separate evaluation under Section 4(f) of the Department of Transportation Act of 1966. At some locations, the proposed road improvement will be visually more evident to river floaters than is the existing road.

Issues and Concerns Identified During the Scoping Process

An Endangered Species Task Force for this project developed the following issues based on comments received at interagency meetings; three public meetings; written comments from agencies, individuals, and organizations; and one-on-one meetings.

1. The long term effects on wildlife:
 - a. Threatened and endangered species.
 - b. Ungulate habitat.
 - c. Bull trout (Dolly Varden).
 - d. Increase in conflicts between man and wildlife species.
2. The increased need and demand for services which would arise if the private lands in the North Fork were subdivided on a large scale.
3. Land management concerns expressed by the major land management agencies in the North Fork:
 - a. Glacier National Park, which might see intensified pressures, specifically, on lands proposed for Wilderness classification.
 - b. Forest Service, which supports road reconstruction and paving as needed for full multiple use resource management and safe use by the public.
 - c. Flathead County [Commissioners], who view road reconstruction and paving as a desirable alternative producing a transportation facility which can be economically maintained and managed. The County also views road improvement as another "rural" development which will eventually create increased demands for County services.
 - d. Department of Fish, Wildlife and Parks, which views road improvement as increasing fishing and hunting pressures in an area where increased pressures are not needed or desirable.
 - e. Department of Natural Resources, which supports road reconstruction as an improved transportation facility needed for management of State lands on the North Fork.
4. Road improvement with the resulting increased rate of development could have an adverse impact on the qualities for which the Wild and Scenic River was established.
5. Pollution and Sedimentation. The Task Force viewed several locations of severe soil erosion along the existing road caused by oversteepened back-slopes and steep, badly eroded fill slopes directly above the River. Dust pollution from heavy traffic during the summer months is a historic event each year. Stabilizing these cut and fill slopes is viewed as mandatory if such pollution and sedimentation is to be reduced.
6. Increased people use in the drainage.
 - a. Floater use will increase. Although use rates are increasing now, present use is considered low to moderate; outfitters are using 12-15 percent of their permitted numbers.
 - b. Recreational use other than floaters is considered moderate. Recreation Inventory Management data for FY-80 on the Glacier View District indicates use at about 78,000 recreation visitor days, including floating. The annual rate of increase is also considered moderate. Recreational use in the North Fork in Glacier National Park is light and is remaining fairly static.

- c. Increased people use will increase agency involvement in controlling solid waste disposal, litter, and sewage effluent.
7. Safety. The Task Force views the primary safety hazard in the North Fork as accommodating public use with the present, planned harvest level of 20 million board feet annually from National Forest lands and an estimated 3 to 5 million board feet from State and private lands. The existing road has several narrow segments where safe passage with a logging truck is now almost impossible.
8. Enforcement of laws by County and all other Agencies. Increased people use will necessitate increased law enforcement. The Flathead Forest has entered into a cooperative agreement with the County to assist in funding enforcement at recreation sites. Such measures, as well as other techniques, may be needed by all managing agencies in the future.

Additional concerns expressed at the public meetings include:

1. The rise in vandalism that is likely to occur with increased use of the North Fork Area.
2. The roughness of the existing road which causes accelerated wear on vehicles that travel it.
3. Several individuals expressed their concern that the type and method of construction (including the no-build alternative) be carefully considered so that the chosen alternative will be the most economical.

Resolution of Issues

1. The endangered species issue has been resolved with the opinions on Alternatives B, C, D, and E given by the U.S. Fish and Wildlife Service, and selection of Alternative D and the conclusion of consultation by the Federal Highway Administration.
2. The issue of increased development resulting from paved access has been resolved by selection of Alternative D, an unpaved alternative.
3. The Task Force viewed road improvement as being fully consistent with providing a safe, pollution-free, low-profile facility next to a segment of the National Wild and Scenic River system classified as recreational.
4. Improved accessibility to the North Fork Flathead Valley with the accompanying effects on resources is incompatible with Glacier National Park's management philosophy and objectives. Selection of Alternative D will not significantly improve accessibility to Glacier National Park. Managers of Glacier National Park, the Flathead National Forest, Montana Department of Fish, Wildlife and Parks, and Flathead County have begun to meet periodically (May, August, November 1982) to exchange viewpoints and information on their respective programs and management directions.

5. Opposition by the Montana Department of Fish, Wildlife and Parks to a paved, high-speed road north of Canyon Creek is resolved with the selection of Alternative D.
6. There is general agreement that highway safety is an important issue, but there is disagreement about the degree of safety needed and the methods of obtaining it. This issue is somewhat academic depending largely on the viewpoint of individuals and agencies. But regardless of which alternative is selected (except the Do Nothing alternative), the Federal Highway Administration is required by regulation to design and construct the road to specific standards for safety.

Unresolved Issues

1. The determination that there is no feasible and prudent alternative to the use of land from a recreation area, and that all reasonable efforts have been made to minimize harm to the area (Section 4(f) determination) will be made before the final environmental impact statement is adopted.
2. Alternative D is the preferred alternative, however, a final decision will not be made until after the final environmental impact statement has been circulated for at least 30 days.

Commitments (To be implemented with the selected Alternative)

Many environmental commitments have been included in this project to reduce or eliminate potential impacts. These commitments will be incorporated in the subsequent design and construction of the project. The project construction engineer will be responsible for monitoring the progress and success in implementing these commitments during construction. The following environmental commitments will be met:

1. The project engineer will notify the Air Quality Bureau, Environmental Sciences Division, Montana Department of Health and Environmental Sciences in advance of construction operations so their representatives can make onsite evaluations of the contractor's compliance with all appropriate laws and regulations concerning air quality.
2. The floodplain analysis will be continued into the design stage in accordance with Executive Order 11988--Floodplain Management and DOT Order 5650.2, "Floodplain Management and Protection." See "Floodplain" section for measures to reduce encroachment.
3. Judicious use of existing topsoil will be required. All topsoil removed during the proposed reconstruction will be stockpiled for later use. In areas where existing amounts of topsoil are insufficient, topsoil may be used from other locations.
4. Construction dust will be controlled with the application of water or other approved dust palliative in accordance with FP 79 "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects."

5. The project engineer will notify the Montana Department of Fish, Wildlife, and Parks (MDFWP), and the Flathead Conservation District prior to construction activities which could affect water quality so that representatives of these agencies can visit the site and observe the effectiveness of control measures and adherence to State Water Quality Standards. No construction equipment will be permitted in any live stream without the specific permission of the project engineer who will coordinate such action with the MDFWP and Flathead Conservation District.
6. Exposed soil surfaces will be stabilized against erosion and revegetated as soon as practicable after regrading. Adequate temporary and permanent erosion control measures will be developed (on a site specific basis where needed) and will be included in an erosion and sediment control plan to be developed for this project in coordination with the U.S. Forest Service, MDFWP, and Flathead Conservation District (see "Water Quality Impacts" section for further details to be included in this plan). The erosion and sediment control plan will include specific erosion control measures to be used to stabilize disturbed areas on the project. The project engineer and contractor will also develop a schedule for the implementation of the plan. The adequacy of the erosion/sediment control plan will be monitored by the project engineer and the contractor. The monitoring program will include turbidity monitoring with a DRT 15 turbidimeter (see "Water Quality Impacts" section).
7. The contract will require the contractor to comply with all water quality and discharge limits set by local, State, and Federal laws and regulations.
8. Any previously undiscovered historic or archeological sites uncovered during construction will be protected, and further construction activity at the discovery location will be suspended until the disposition of the material or sites is resolved. Resolution will be determined in coordination with the U.S. Forest Service, the State Historic Preservation Officer and the Advisory Council on Historic Preservation.
9. The project engineer will take the necessary precautions to assure that the contractor does not establish his construction staging area or residential camp, if permitted, on any identified archeological sites. Additionally, the contractor will not operate outside the construction limits in the vicinity of known archeological sites if such operation might affect the site.
10. All equipment used on the project will be properly muffled.
11. The contract will require that the contractor's staging area and residential camp, if permitted, be maintained in a reasonable condition of cleanliness, and that all litter associated with the contractor's operations at the staging site and throughout the project will be properly stored and disposed of.
12. To protect existing water quality and flows, a review will be made during the project design stage in coordination with the U.S. Forest

Service, MDFWP, and Flathead Conservation District. This review will determine the best means to provide adequate roadway and slope drainage while preserving existing surface water and shallow groundwater quantity and quality. These measures will be addressed in the final project plans and specifications.

13. Any drainage with a fishery will be directed through a culvert that allows fish passage.
14. The heights and lengths of new cut/fill slopes will be minimized as practicable. Tops of slopes will be rounded to blend with the landform and reduce erosion. Existing vegetation will be disturbed as little as possible (generally 5 feet beyond the rounded top or toe of cut/fill slopes). High cut slopes may be serrated to enhance revegetation.
15. Measures will be developed in coordination with the MDFWP, U.S. Fish and Wildlife Service, and U.S. Forest Service to facilitate grizzly bear management. Such measures could include posting no stopping/no parking signs along the road in areas where grizzlies are known to frequently cross and where they would be highly visible thus attracting harassment; and, posting public information signs to advise visitors to the legally protected status of grizzlies and to important facets of grizzly management and needs.
16. The disturbed area will be revegetated with plants that will not attract bears or ungulates to a food source in the right-of-way; revegetation in the Big Creek to Camas winter range will provide crossing cover for grizzlies. The revegetation plan will be developed in coordination with the U.S. Forest Service and MDFWP. The Montana Department of Fish, Wildlife and Parks or the County will remove any carcasses from the right-of-way so that grizzlies would not be attracted to this food source. Advisory speed signs will be posted at 35 mph design speed curves along the winter range.
17. Specific project construction controls on personnel/operations/equipment will be implemented to minimize grizzly disturbance, harassment, and confrontations. Project activities and Forest activities will be timed to minimize any cumulative effect on grizzlies. Construction controls and timing will be developed in coordination with the U.S. Forest Service, MDFWP, and U.S. Fish and Wildlife Service. Only essential construction personnel will be allowed to remain overnight on the project.
18. Rock cuts will be left rough textured or sculptured to provide a natural appearance.
19. A landscape/erosion-sediment control advisory team will be utilized during the project design stage to review the entire project, give recommendations for general revegetation, landscaping, and erosion-sediment control measures, and give detailed design recommendations in particularly scenic or visible areas and where erosion-sedimentation problems are expected to be greater (see also "Vegetation" and "Scenic/Recreational Resources" sections).

I. PURPOSE AND NEED FOR THE PROJECT

Forest Highway Program

The basic purpose of the Forest Highway Program is to enhance local, regional and national benefits by providing for the construction and maintenance of forest highways which serve the National Forest System and its renewable resources. Funding is provided through the Highway Trust fund for Forest Highways in the states in which the National Forests are located.

The Forest Highway program in Montana is administered by the Federal Highway Administration in cooperation with the U.S. Forest Service and the Montana Department of Highways.

Projects included in the Forest Highway program are based on the following criteria:

- 1) the development, utilization, protection and administration of the National Forest System and its renewable resources,
- 2) the enhancement of economic development at the local, regional and national level,
- 3) the continuity of the transportation network serving the National Forest System and its dependent communities,
- 4) the mobility of the users of the transportation network and the goods and services provided,
- 5) the improvement of the transportation network for economy of operation and maintenance and the safety of its users, and
- 6) the protection and enhancement of the rural environment associated with the National Forest System.

Flathead National Forest provides timber products important to the economy of the Nation, State, and Flathead County. The current Glacier View District plan is to harvest approximately 20.2 million board feet annually along with an estimated 3 to 5 million board feet to be harvested from State Forest and private lands. These harvests are intended to be hauled over the proposed improvement of Forest Highway 61.

Economical timber production as well as management on the Glacier View District of Flathead National Forest and private and State Forest lands is presently hampered by the structurally inadequate roadway between Canyon Creek and Camas Junction which is unsafe for a logging and recreation traffic mix. Logging companies have claimed breach of contract because of poor road condition.

Local residents also use Forest Highway 61 from their residences enroute to jobs, schools and other activities. The North Fork Improvement Association maintains an active community center which is located on the North Fork Road near Whale Creek. The North Fork Road provides access to a border crossing between the United States and Canada where both countries have active Custom Stations.

The North Fork Road provides access to the North Fork area for management by Flathead National Forest. This is a prime example of multiple use of public lands. The area is heavily used as a recreation area with both developed and dispersed recreational opportunities in Glacier National Park, Flathead National Forest, Coal Creek State Forest, Canadian Provincial Forest and on private lands in the drainage. See Scenic/Recreational Resources section for more detail.

The major justification for this project is to provide a structurally adequate and maintainable highway to serve present and future traffic and forest management needs.

History of North Fork Road

The major portion of the North Fork Road was constructed by Flathead County and local settlers in the early 1900's. However, the road was improved by the Forest Service between 1952 and 1954.

The road continued to be maintained by Flathead County and local users until 1949. At that time the Forest Service entered into an agreement with the county to participate in maintenance in order to safely and economically accommodate increased timber harvesting. The agreement required purchasers of National Forest timber to pay for or to perform road maintenance commensurate with their use. Monies accumulated by the Forest Service from the timber purchasers were periodically turned over to Flathead County for maintenance purposes, i.e., blading, dust abatement, and road surface replacement. Flathead County utilized the last of these funds in 1980 to place a gravel subbase protected by a cold mix mat for 5 1/2 miles of the 12-mile distance between Camas Junction and Polebridge. The maintenance agreement with the Forest Service will be terminated when timber sales sold prior to October 1981 are completed.

Forest Highway 61 is coincidental with the North Fork Road between Columbia Falls and Camas Junction. The roadway has been reconstructed with an asphalt pavement between Columbia Falls and Canyon Creek; also, a 0.5-mile project for a new bridge and approaches has been built at Big Creek.

The remaining unimproved 10.0 miles of Forest Highway 61 between Canyon Creek and Camas Junction is presently undergoing engineering and environmental studies as described in this document.

The North Fork Road northerly from Camas Junction to the Canadian boundary was removed from the Forest Highway system in 1976.

Planning Process

Land Management - The U. S. Forest Service Regional Forester and the Flathead National Forest Supervisor have determined that reconstruction of the North Fork Road to Camas Creek is needed to help achieve Forest Service management goals. This route serves as the primary access to the Glacier View District. District plans have been developed assuming that this section of road would be improved to a viable transportation facility.

In 1974, the Forest Service published a Final Environmental Statement, Multiple Use Plan-North Fork Unit. After considering a number of management alternatives, the one selected concerning the North Fork Road was:

- Forest service to support a double-lane paved road from Canyon Creek to Camas Junction. Width of surface and clearing should be similar to the present Camas Road in Glacier National Park.
- No plan to upgrade the North Fork above Camas in the foreseeable future.

(As land and resource management agencies in the North Fork, the U.S. Forest Service, National Park Service, Montana Department of State Lands, Montana Department of Fish, Wildlife and Parks, and Flathead County can influence traffic demand by the level of activities authorized or conducted. Such activities influence the scale of improvement needed on the North Fork Road.)

The Multiple-Use Sustained Yield Act on National Forest lands, the Wild and Scenic Rivers Act, and Glacier National Park and private lands generate land use activities. The Endangered Species Act prohibits federal activities which jeopardize an endangered species.

The resultant interaction of cooperating agencies charged with administering acts and these acts and programs will result in unique solutions to conflicts in land use activities and roadway design that are socially, economically, and environmentally acceptable.

Overall Project Assessment

It is not economically feasible to maintain the present road to a safe, adequate condition under existing traffic. Large amounts of raveling in the cutslopes has caused blocking of ditches and narrowing of the roadway in some areas. Ponding of water because of inadequate drainage causes rutting of the roadway and deterioration and loss of outside embankments in other areas. Several hundred feet of roadway needs to be built up to be above the 50-year design flood water elevation. The roadbed is constantly in need of repair with severe chuck holes, washboarding and surface erosion being the major problems. Road maintenance through surface blading, dust abatement and aggregate surface replacement has not been adequate.

The existing roadway does not meet the American Association of State Highway and Transportation Officials (AASHTO) recommended design criteria for a

highway carrying the existing or projected year 2004 traffic volumes and mix. A Report of the Special AASHTO Traffic Safety Committee, February 1967 concluded that a wider area free of obstruction beside the travel lane will provide a better opportunity for recovery by the driver who inadvertently leaves the highway. It is expected that the wider roadway section would reduce the number of head-on, sideswipe, and run-off-the-road accidents. While the 35 mph design standard as well as environmental constraints do not allow the ideal width of clearing of roadside obstructions, they do provide a practical, feasible, cost-effective solution to enhance the travel safety of the public.

Traffic

Background and projected traffic data on North Fork Road was compiled by the Montana Department of Highways (MDH) utilizing its historical and present traffic field counts and observations, its past experiences on similar routes, and traffic information received from the Forest Service, Glacier National Park, and Flathead County. The ADT's listed below are an average of actual counts taken at Canyon Point and just below Camas Junction.

Traffic on this proposed project increased rather slowly from an Average Daily Traffic (ADT) of 60 in 1960 to 154 in 1973. However, between 1973 and 1978, traffic accelerated to 240 in 1975, 260 in 1976, and to a peak ADT of 380 in 1978, reflecting log truck and administrative traffic due to greatly increased harvest of beetle-infested trees, designation of the Flathead Rivers as components of the Wild and Scenic Rivers System, and reconstruction of North Fork Road to Canyon Creek. The Forest Service, in its latest plan being developed, now projects an annual harvest of 20.2 mbf in future years.

Traffic has declined from the 1978 peak to an ADT of 320 in 1979, 280 in 1980, 205 in 1981, and 235 in 1982. The ADT in 1981 was inadvertently listed as 300 in the DEIS. Traffic now nearly approximates the historical growth rate of North Fork Road.

MDH estimates that a more conservative growth rate will occur in future years. Based upon traffic growth observed on North Fork Road and on similar secondary roads in the state, MDH projects about 2 percent/year traffic growth. This lower growth rate is also predicated on stabilized timber production in the North Fork, limited supply and high cost of energy and the "dampening effect" of public land use control. Only 2 percent of the lands in the North Fork drainage are privately owned.

In its projections in 1979, the MDH determined that 1976 was the most realistic base year at that time from which to project traffic on North Fork Road. Applying an approximate 2 percent/year growth rate (compounded), MDH estimated an ADT of 400 vehicles/day for the 2004 design year if the proposed project is reconstructed and paved. About 15-20 percent of this projected traffic is expected to be heavy trucks; about 40 percent is expected to be light trucks or vans. However, since this projection may not adequately take into account potential travel and energy costs, national and local economic conditions, government restrictions/constraints such as

zoning, extension of electrical power, etc., MDH decided that its projections could be nearly 100 percent low. Therefore, its projections were put in a range or band between 400 and 760 ADT for the design year should the proposed project be reconstructed and paved. The MDH did not project ADT's for the gravel alternatives per se but they and the Forest Service foresee little difference with either the asphalt or the gravel surfacing.

Utilizing the MDH traffic data, FHWA in cooperation with the Forest Service and Montana Department of Highways made two linear regression projections for the no-build, Alternative A, i.e., (1) the 1960-1972 upward traffic trend to 328 ADT in the 2004 design year, and (2) a 1972-1981 projection to 689 ADT in the 2004 design year. This latter projection omitted the 1978 peak year traffic as being unrepresentative. Based on these projections the range of traffic for the alternates were determined to be as follows:

	2004 ADT
Alternate A - no-build	328 to 689
B	362 to 760
C	362 to 760
D	353 to 742
E	345 to 724

The low figure (for Alternate A) represents the minimum traffic realized in 20 years. The high figure (Alternates B and C) represents the maximum attained in 20 years. The figures for Alternate D were developed on the basis that 25 percent of the increased traffic between the no-build and paved road would not use this highway without paving. Similarly, Alternate E traffic was derived on the basis that 50 percent of the increased traffic would not use the road if only spot improvements were made.

It is not apparent that a great deal more traffic will be generated up the North Fork Valley. In light of the decline of traffic to near the historical growth rate, it now appears unlikely that the high figures above would ever be reached. However, projections are just that and nothing is certain.

The yearly traffic counts, as well as the predicted traffic (highs and lows) for each of the alternatives to the year 2004 design year are plotted on the traffic graph found on the following page.

The actual traffic counts during the late spring, summertime and early fall are higher than ADT's which have been adjusted to reflect more of a year-round average, rather than a seasonal high. The heavy seasonal traffic months are also dry ones which accentuate the problems. The economic capacity of the existing gravel roadway is about 300 vehicles/day (Public Roads, Volume 7).

The second traffic graph shows the estimated monthly traffic trend for 1981 and 1982 as compiled by the MDH. Due to the consequential impact and problems on North Fork Road caused by the high seasonal traffic, both the normally used ADT and the seasonal traffic are being given consideration in weighing the scale of improvement needed.

AVERAGE DAILY TRAFFIC (ADT)

800

700

600

500

400

300

200

100

1960

1961

1962

1963

2000

2001

2002

2003

2004

800

700

600

500

400

300

200

100

0

760

742

724

689

362

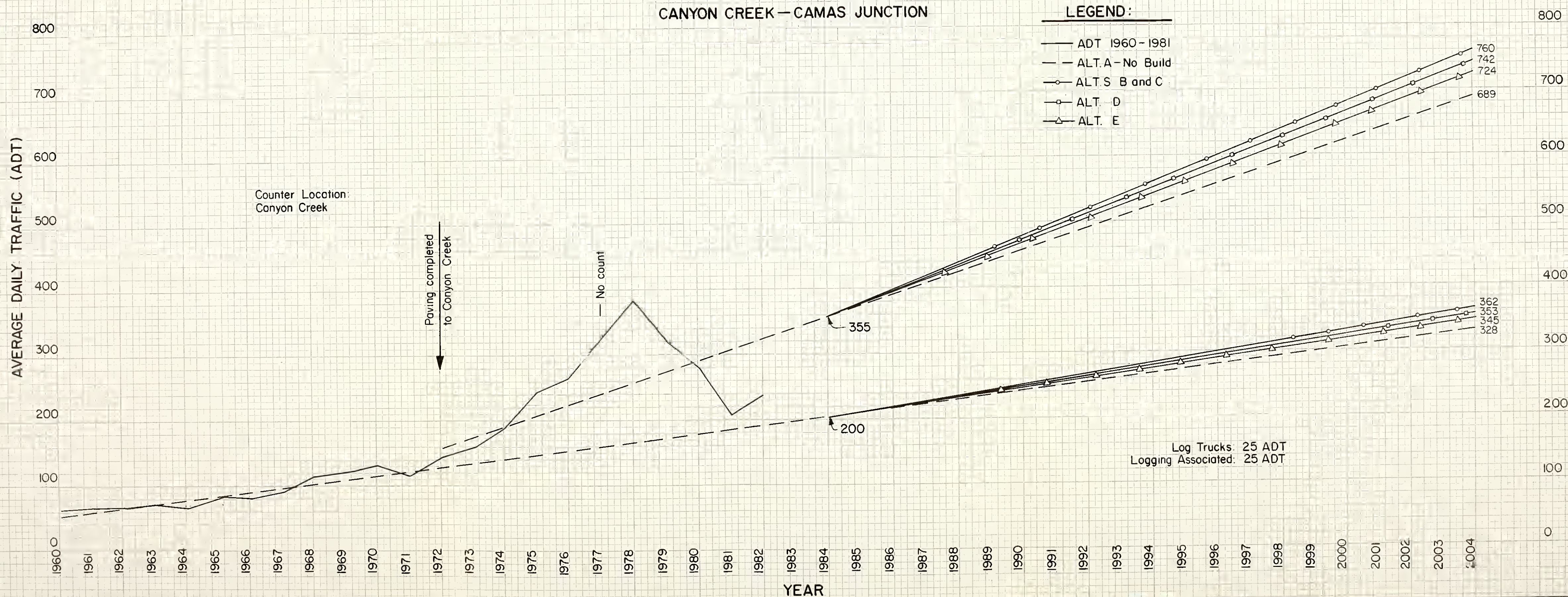
353

345

328

TRAFFIC VOLUMES

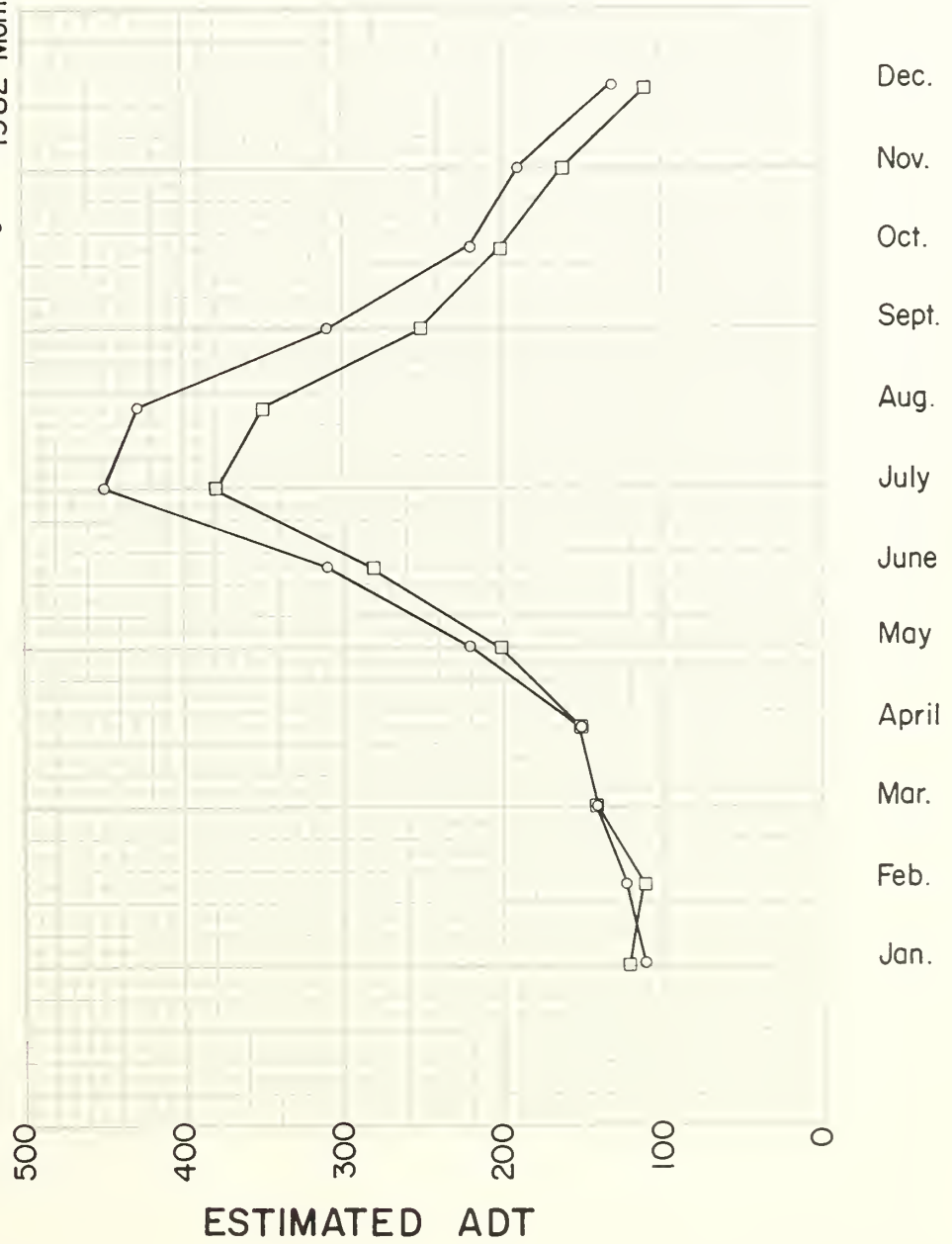
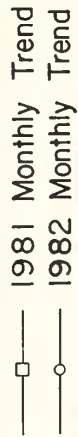
FH 61 - NORTH FORK ROAD (FAS 486)
CANYON CREEK - CAMAS JUNCTION



ESTIMATED MONTHLY TRAFFIC TREND

NORTH FORK ROAD (CANYON CREEK - CAMAS JUNCTION)

LEGEND



The high seasonal traffic does not have a significant impact on the grizzly bear which is in higher country during most of this time. Although some deer may be in the winter-range area during this heavy seasonal traffic, most of the deer population is widely dispersed in its broad summer range. Since the County does not intend to step up winter maintenance, this improvement would not in itself cause a significant amount of earlier spring or later fall access.

Annual visitor use to and from the North Fork Road and Glacier National Park at Polebridge and Camas entrances are recorded by the Park as follows:

<u>Year</u>	<u>Polebridge</u>		<u>Camas</u>	
	<u>Visitors</u>	<u>Vehicles</u>	<u>Visitors</u>	<u>Vehicles</u>
1976	30,865	9,956	52,376	16,895
1977	28,647	9,240	27,862	8,987
1978	31,051	10,016	31,414	10,134
1979	25,298	8,160	31,168	10,054
1980	24,403	7,872	23,259	7,503
1981	26,270	8,474	60,111	19,391

Visitor use had dropped off since 1976. However, a sharp rise was experienced in 1981. The Park reports that visitation in 1982 is about 10 percent below 1981.

Land management agencies--Flathead National Forest, Glacier National Park, and Coal Creek State Forest; fish and wildlife resource management agencies--Montana Department of Fish, Wildlife and Parks, and U.S. Fish and Wildlife Service; and, local agency administering unincorporated land--Flathead County; can influence traffic demand through allocation of available resources in their planning processes and level of activities authorized or conducted. Thus, management influences to a large extent, the maintenance problems on the existing road and the scale of road improvement needed.

Accident Statistics. Since Forest Highway 61 is in a remote rural location, many accidents that occur are not reported. Thus, it is not possible to make a reliable statistical comparison of the accident rates of different segments of this route and other similar type roads statewide and nationwide. The following information is based on statistics on reported accidents as compiled by the Montana Department of Highways and Montana Highway Patrol.

<u>1978-79-80 Statistics</u>	<u>Injury</u>		<u>Fatal</u>
	<u>Accident Rate</u>	<u>Accident Rate</u>	<u>Accident Rate</u>
Columbia Falls to Canyon Creek	1.74	1.16	0.29
Canyon Creek to Camas Junction	3.12	0.78	0
Camas Junction to Canada line	1.57	0.78	0
Similar routes statewide	2.89		

The following information is based on statistics compiled by the Federal Highway Administration:

<u>1979 Statistics</u>		
Similar routes statewide	1.18	0.06
Similar routes nationwide	1.19	0.05

Above rates per million vehicle miles.

Economic Analysis

The table on the following page contains a comparison of relative costs of the Alternatives (also see the Economic Analysis by the U.S. Forest Service found in the appendix).

Initial construction costs are higher on Alternatives B and C (asphalt surface) than for Alternatives D and E (gravel). However, maintenance and user trip costs are higher for the gravel alternatives (including rebuild) than the asphalt ones. The net present worth costs versus projected ADT (which include costs of construction, maintenance, and user trips) versus projected ADT in the year 2004 were computed at the 4 and 7-1/8 percent interest rates for each alternative and plotted on graphs 1, 1A, 2 and 2A for visual comparisons (see appendix). Alternate A has the lower net present worth costs up to an ADT of 315. Alternate A was not considered for ADT's above 315 because they are beyond its capacity. The net present worth costs for Alternative C are lowest of all build alternatives at both the 4 and 7-1/8 percent interest rates. Such costs for Alternate B are second lowest at the 4 percent interest rate. At the 7-1/8 percent interest rate, Alternate E is the second lowest at lower ADT's but moves closer to those for Alternatives B and D at higher ADT's.

Maintenance Costs. The costs for Alternate A are based on continuing the present maintenance level of the existing road for the projected traffic. The estimated costs for the other Alternatives (B, C, D and E) are based on maintaining the roads to the standards to which they would be constructed for the projected traffic. Certain work is necessary and estimated costs are derived from this. The estimate for Alternative E will be more than Alternative A because about 4.4 miles out of the 10 miles are constructed to a higher standard, traffic is greater, and maintenance level is higher than the present maintenance.

There were comments made that the cost estimate for maintaining the existing road was excessive. The cost estimate of \$40,850 is what is needed to maintain the existing road at the present level. This cost was inadvertently listed as \$176,697 in the DEIS. The \$176,697 figure was for a modified Alternative A which was earlier considered and discarded as being impracticable. Modified Alternative A was an attempt at a beefed-up effort which would maintain the existing gravel roadway to as nearly as possible the same level of service as the other alternatives.

Alt.	Length Miles	Const.		Maint.		User Trip Costs				Net Present Worth Costs		Energy Use
		1983 Costs Millions	1982 Costs	1982 Costs	1982 Costs	Log Truck MBF *	Logging Ass'd.	Other Users	Interest 4%	Rate 7-1/8%	2004 ADT Range Millions**	
A	10.0	--		\$ 40,850		\$7.64	\$4.75	\$2.85	***	***		8
B	10.0	6.0		40,840		2.70	2.53	1.34	9.0-7.0	8.4-7.1		9
C	10.0	5.0		37,370		2.80	2.93	1.49	8.2-6.4	7.5-6.3		9
D	10.0	4.0		124,820		4.20	3.47	2.01	9.5-8.1	8.3-7.4		10
E	4.4	2.5		168,600		5.10	3.96	2.31	9.3-8.3	7.7-7.1		9

* Thousand Board Feet

** See Graphs 1 and 1A in Appendix

*** Alt. A is not considered for ADT's higher than its 315 ADT capacity

**** Equivalent barrels of oil per day

There were some questions regarding the maintenance cost as compared with the costs developed by the correspondent and supposedly what the County is now spending. The costs given for the County to maintain the existing road ranged from \$597 per mile in 1980 to \$1,228 per mile in 1981 or \$5,970 to \$12,280 for the 10-mile section. Other costs provided by the two correspondents who had actually done maintenance work on the road quoted figures of \$20,000 from 1975 to 1978 and \$20,000 for dust oiling the 10-mile section in 1978. One correspondent who does do considerable dust oiling projected costs (1982) for dust oiling the project at \$25,000-\$35,000.

When costs are discussed it is important to include all costs by all parties who contribute. If this was done with historical costs, they may be closer to our estimated costs.

Energy

Utilizing guidelines developed for Project 20-7, Task 8 of the National Cooperative Highway Research Program, FHWA has calculated daily energy consumptions for the alternatives utilizing the ADTs from when the project could be completed in 1988 to the 2004 design year. Direct energy calculations include the energy used by cars, 2-axle (6-tire) trucks and tractor-semitrailer trucks. Indirect energy calculations include energy expended in vehicle wear-out, vehicle maintenance, facility construction and facility maintenance. Following is the energy usage in terms of equivalent barrels of crude oil:

Alternate A, no-build	8.1 barrels per day
Alternate B	8.6 barrels per day
Alternate C	9.3 barrels per day
Alternate D	9.7 barrels per day
Alternate E	9.2 barrels per day

The two barrels per day difference among the alternatives is not considered a significant amount.

Conclusion

The Forest Highway program agencies have determined that this section of North Fork Road between Canyon Creek and Camas Junction should be reconstructed to a standard which economically accommodates present and future design year volumes.

The project is expected to be built in segments over a period of four construction seasons as Forest Highway funds become available, beginning in Fiscal Year 1984.

II. ALTERNATIVES

Reconstruction of the initial 0.7 miles of FH-61 which is Nucleus Avenue in Columbia Falls has recently been completed as a State Secondary project. The next 1.3 miles between Nucleus Avenue and the turnoff to the aluminum plant was reconstructed in 1972 as a State Secondary project with two 12-foot paved driving lanes, two 10-foot paved shoulders, and 6:1 roadway slopes.

The next 10.4 miles of Forest Highway 61 between Columbia Falls and Canyon Creek was reconstructed in 1972 with two 12-foot asphalt paved travel lanes, two 5-foot asphalt paved shoulders, 6:1 roadway slopes and a 15-foot-wide ditch. There was a 20-foot-wide clearing width beyond the slope stakes in cut and fill areas. The average width of clearing areas was approximately 136 feet.

A 0.5-mile project to replace the Big Creek Bridge (and approaches) was completed in 1980. The bridge width is 34 feet. The approach roadway has two 12-foot asphalt treated travel lanes, two 3-foot asphalt treated shoulders, 5:1 roadway slopes and a 10-foot wide ditch. The final asphalt surface has not been placed. There was a 10-foot-wide clearing width beyond the slope stakes in cut areas and 5 feet in fill areas. The average width of clearing was approximately 79 feet.

The remaining 10.0 miles of Forest Highway 61 is addressed in this final environmental impact statement.

Five alternatives are being studied:

Alternative A--No-build, maintain the existing roadway at current maintenance level.

Alternative B--Rebuild the road to a 50 mph design speed with an asphalt paved surface generally following the existing alignment.

Alternative C--Rebuild the road to a 35 mph design speed with an asphalt paved surface closely following the existing alignment.

Alternative D--Rebuild the road to a 35 mph design speed with a gravel surface closely following the existing alignment (preferred alternative).

Alternative E--Rebuild the road to a 35 mph design speed with a gravel surface only in critical areas (spot improvements).

(NOTE: Regular blading and dust coating, suggested as an alternative by some individuals, is a normal maintenance activity associated with gravel roads.)

A full or partial rerouting away from the river which would remove all or parts of the road from within the designated recreational river boundaries was not considered worthy of detailed study because it would: encounter

relatively rougher terrain, steeper grades, sharper curvature, deeper cuts and heavier fills; be more circuitous and costly than following the existing road; and create a second roadway scar on relatively pristine lands. Most of the existing highway would still remain in use in order to serve forest management and recreational needs. (These conclusions regarding a possible rerouting alternative were agreed with by all local land management, highway, and wildlife agencies.)

Mass transit and other methods of vehicle management are not reasonable or appropriate alternatives in this relatively isolated rural area. The private vehicle is virtually the sole means of transportation.

Alternative A, the no-build, would entail the continued present maintenance level on the existing road. Forest Highway funds are not used for maintenance. Should this alternative be selected, the Federal Highway Administration will no longer be involved.

From a cursory look at this alternative, it would appear to have the most favorable effect on the natural environment since it would result in the least exposure or conversion of new areas to highway use; would not disturb adjacent vegetation, wildlife habitat and wetland areas; would not increase erosion of newly disturbed areas; nor would it create visual change to the terrain.

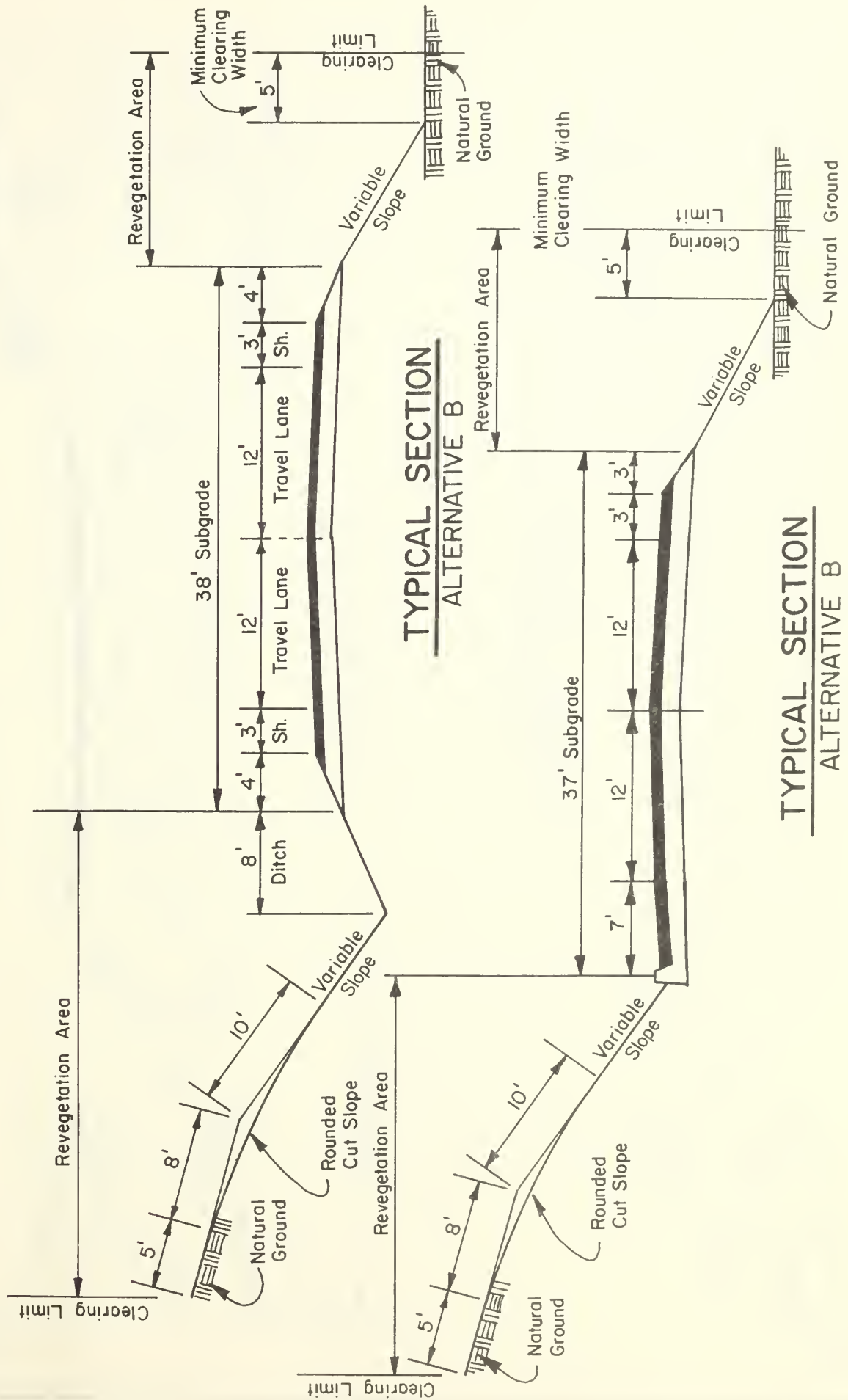
However, the no-action alternative does not solve the problems of safety and capacity and the structurally inadequate roadway. The present facility was built in another era with the capability of serving low density traffic. The existing structural section was never intended to handle the existing or projected traffic volumes. It lacks vertical and lateral strength, has poor surface and subsurface drainage, has inadequate roadway and shoulder widths and does not correct existing slope stability problems. There are also several areas close to the North Fork Flathead River involving dangerous curves and dropoffs.

An adverse factor with the no-build alternative is the fugitive dust problem on the present dirt and gravel roadway which

- may reduce visibility to near zero and presents a safety problem,
- is a visual intrusion into the forest,
- contributes to deterioration of the environment by settling, damaging, discoloring, and degrading vegetation and wildlife, and by adding pollutants to the river and its tributaries through the action of wind and water,
- results in the loss of expensive aggregate that has to be replaced, causing impacts on material sources.

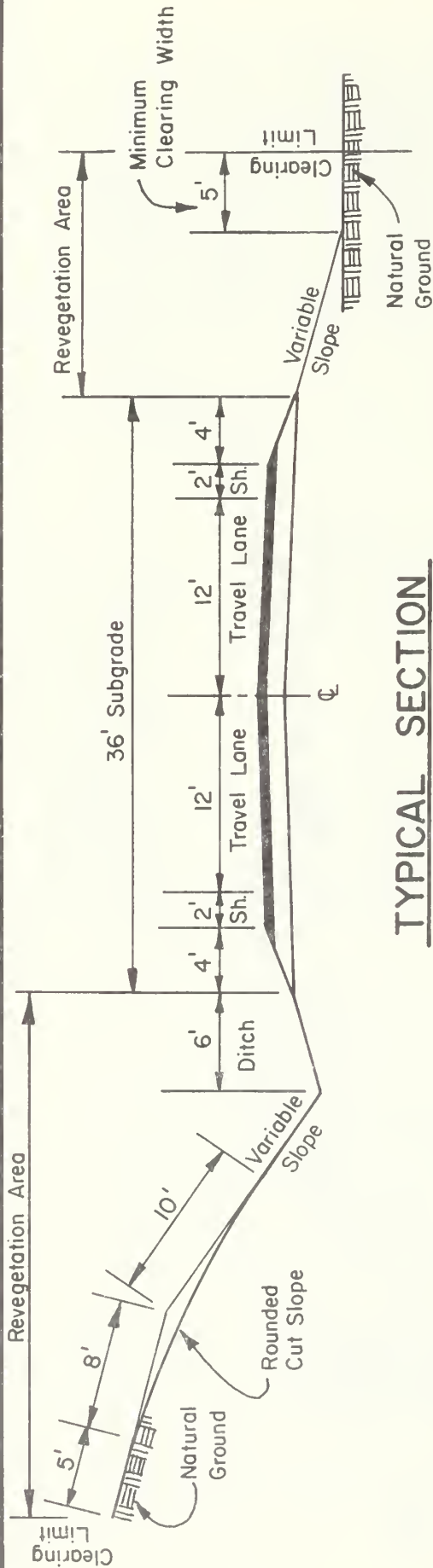
Alternative B would rebuild the road to a 50 mph asphalt paved standard, following the existing alignment with relocations for safety, operational improvements, and to serve forest management needs. Over 90 percent of the existing road is included in the proposed roadway prism.

The roadway would consist of two 12-foot asphalt paved travel lanes, two 3-foot asphalt paved shoulders, 4:1 roadway slopes and a 12-foot wide ditch.

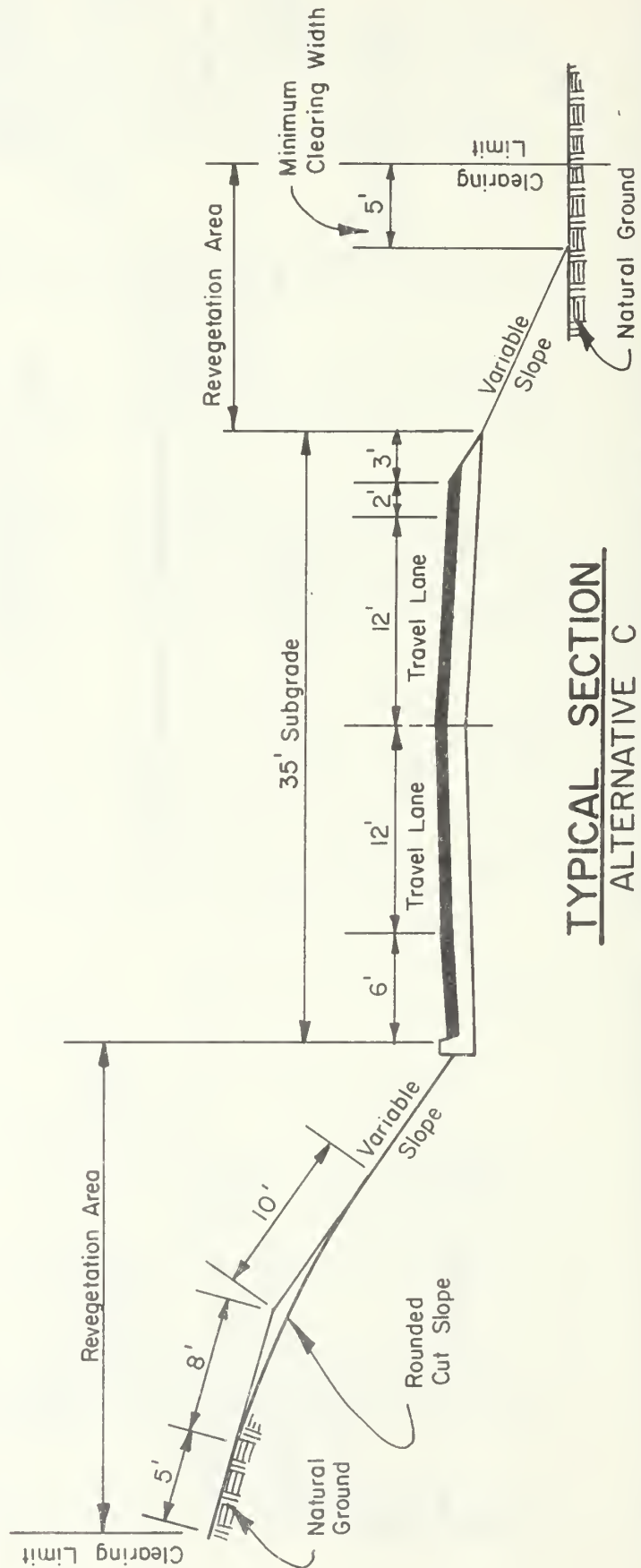


TYPICAL SECTION ALTERNATIVE B

To be used in critical areas

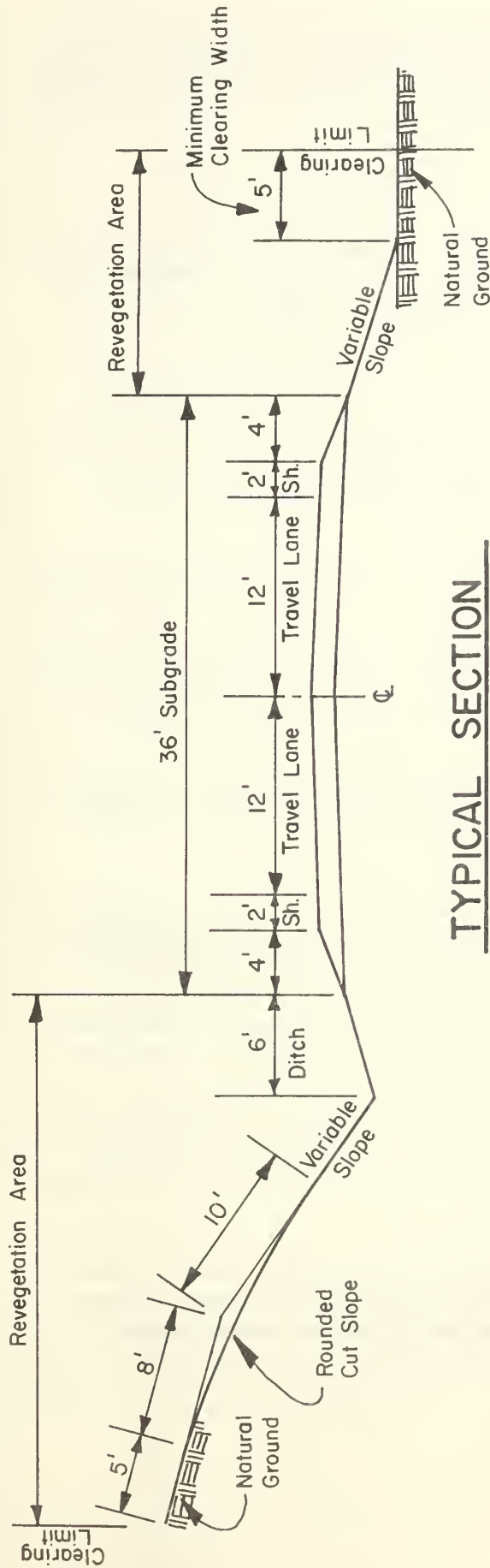


TYPICAL SECTION
ALTERNATIVE C



TYPICAL SECTION
ALTERNATIVE C

To be used in critical areas



TYPICAL SECTION

ALTERNATIVE D and E

There would be a 5-foot wide clearing width from the top of the rounded cut slope and a 5-foot wide clearing width from the bottom of fill slope. The average width of the roadway prism including clearing areas would be approximately 72 feet.

This standard, used in earlier construction on the North Fork Road and Glacier National Park Route 8, is no longer considered appropriate.

Alternative C would rebuild the road to a 35 mph asphalt pavement, closely following the existing alignment with only minor relocations for safety and operational improvements and to serve forest management needs. Over 95 percent of the existing road is included in the proposed roadway prism.

For most of the project, the roadway would consist of two 12-foot asphalt paved travel lanes, two 2-foot asphalt paved shoulders, 4:1 roadway slopes and a 10-foot wide ditch. Cleared area would extend about 5 feet beyond the edge of the rounded cutslopes and a 5-foot-wide clearing width from the bottom of fill slope. The average width of the roadway prism including clearing areas would be approximately 70 feet.

For alternates B and C there would be a proviso to utilize a curb and gutter section, as an exception to the ditch section, in critical cut areas in order to minimize encroachments on the river or big game winter range. The travel lane width would remain 12 feet with a paved gutter out to the curb which is set at the bottom of the cut slope. The curb and gutter section will lessen the cut width by 7 feet on Alternative B and by 6 feet on Alternative C.

The long-term scenic quality within the construction limits would be improved with Alternatives B and C, where uniform revegetated slopes that are dust free would replace eroding banks which are now dust covered and not well vegetated.

Asphalt paving is utilized on most projects by the Forest Highway program agencies for a number of reasons. Asphalt pavement provides a dry subbase, a firm foundation, and a tight surface. Pavement forms an impervious roof which protects the subgrade from moisture and wear. Asphalt roadway and shoulder pavement underlain with an appropriate aggregate subbase provides needed vertical and lateral strength, good surface and subsurface drainage and an all-weather surface for safety and the long-term protection of the construction investment. Paving will also enhance snow removal activities and protect the roadbed from damage by snow removal equipment. It will eliminate dust conditions and improve the ability of the driver to retain visibility of vehicular and animal movement on or along the highway. Paving would also reduce erosion of the road surface.

With added attention to maintenance, all of the build alternatives eliminate a serious safety hazard for visitors leaving Glacier National Park via the Camas Road who are now confronted with 10 miles of narrow, rough roadway. A 35 mph design will also act as a deterrent to vehicle/animal collisions.

Alternative D would rebuild the road to a 35 mph gravel surface standard, closely following the existing alignment with only minor relocations for safety and operational improvements and to serve forest management needs. Over 95 percent of the existing road is included in the proposed roadway prism.

The roadway would consist of two 12-foot gravel travel lanes and two 2-foot gravel shoulders. The roadway slopes, ditch width and clearing widths would be the same as for Alternative C.

Since it would require that travel lanes and shoulder areas be paved in order to provide positive surface drainage, a curb and gutter section could not be utilized in conjunction with the gravel section.

As in the no-build alternative, an adverse factor with alternative D would be the pervasive fugitive dust problem and road surface erosion on a gravel roadway. Periodic applications of road oil, calcium chloride, or lime can be used to control dust, but these measures are costly, last only a little while, and may have some adverse impact on adjacent streams and vegetation. Stepped up maintenance activities would be needed to preserve/restore the gravel roadway.

Alternative E would entail the spot improvements or reconstruction of the road only in the most critical areas or hazardous locations. Six such areas are between Canyon Creek and the vicinity of Big Creek Work Station as well as the entire length between Big Creek and Camas Junction. The roadway section utilized would consist of a gravel surface as in Alternative D. Alternate E involves construction on about 4.4 miles of the 10-mile section (see alignment map included in the Summary section).

Spot improvements of the most critical areas would provide the most immediate benefits with little disturbance. However, Alternative E is not acceptable since it will not provide the necessary structural strength, capacity, or safety needed for the entire project. Also, because most of these sites involve heavy excavation, their project limits must be extended to utilize the excavated material in other areas where the highway needs to be raised, instead of unnecessarily wasting it.

A short-term negative impact of the build alternatives is that the landscape, scenery and streams in close proximity to the existing road will be disturbed until permanent erosion control features are in place and native vegetation has been reestablished.

The build alternatives (B, C, and D) provide a facility which have more capacity and which will be safer than the existing condition. They will be engineered to provide a consistent alignment and roadway width; flatter roadside slopes; lateral and longitudinal sight distance; base and surfacing meeting specifications for strength, durability, etc.; guardrail at high embankments; properly sized ditches, culverts and underdrains for positive drainage. The gravel alternatives will require more maintenance attention to

prevent problems such as rutting, washboarding, chuckholes, surface erosion, ponding of water, loss of roadway embankment, excessive loss of gravels and pervasive dust. Maintenance costs for the alternatives are found in Appendix A.

The economic consequences of reconstruction and maintenance of the alternatives are addressed in the PURPOSE AND NEED FOR THE PROJECT section. Discussions on the Social and Economic Environment are addressed in the SOCIAL AND ECONOMIC IMPACTS section.

The Forest Highway program agencies had earlier concluded in the DEIS that Alternate C, 35 mph asphalt surfacing, was the best alternative after considering engineering, social, economic and environmental aspects. Thus, Alternate C was listed in the DEIS as the preferred alternative.

DOI offered no objection to Alternatives C, D, or E concerning Section 4(f) lands provided adequate measures to minimize harm are included in project plans. This position related only to Section 4(f) and did not supercede any subsequent decision resulting from consultation pursuant to the Endangered Species Act and a comprehensive planning effort between Flathead National Forest, Glacier National Park, and other agencies with area jurisdiction.

The DOI, Fish and Wildlife Service (FWS) in its letter of April 28, 1982, issued a biological opinion that Alternate C is likely to jeopardize the continued existence of the gray wolf and grizzly bear. FWS biological opinion was that Alternatives D and E were not likely to jeopardize the continued existence of these species. Comments from several agencies and a majority of the responding public favor a gravel surface.

A final decision concerning an alternative will be contained in a Record of Decision made by the FHWA Regional Director of Environmental Programs in Denver. This Record of Decision should be available to the public within 30 to 60 days following notice in the Federal Register by the Environmental Protection Agency of the availability of this FEIS.

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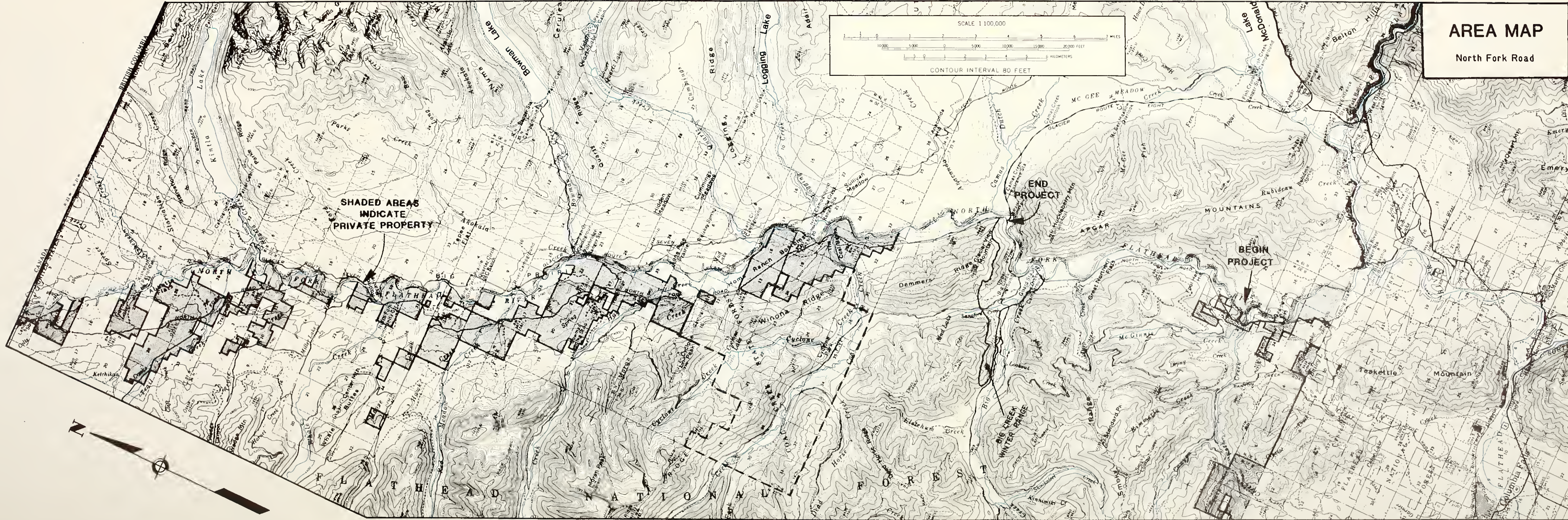
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AREA MAP

North Fork Road

III. AFFECTED ENVIRONMENT

Land Use and Natural Resources

Land use in the North Fork drainage adjacent to or served by the proposed project is controlled in varying degrees by the following governmental entities (see Area Map):

U.S. Forest Service -- 284,140 acres within Flathead National Forest
National Park Service -- 228,355 acres within Glacier National Park
Montana Division of Forestry -- 16,226 acres of State Forest land
Flathead County -- 18,428 acres of private land within the Glacier View
District of the Flathead National Forest
British Columbia Forest Service -- 431,813 acres of Canadian Provincial
Forest lands
British Columbia -- 2,810 acres of private land within the Canadian Provincial
Forest

Because most of these land managers are involved in multiple use natural resource management, this section describes both land uses and natural resources in the area.

The U.S. Forest Service is currently updating its Forest Management Plan for the Flathead National Forest. When completed, this plan will determine the various uses of the forest as well as allot specific acreages to primary and collateral uses. The Glacier View District of the Flathead National Forest includes the project area and extends up the North Fork drainage to the Canadian border. The North Fork Road is the primary access to this entire district. The Glacier View District currently operates under the "1969 Timber Management Plan" and the "1974 Multiple Use Plan for the North Fork Planning Unit." This unit plan has been supplemented several times to update forest management as needs and concerns have changed. Examples of such changes include the Wild and Scenic Rivers program (final EIS - March 77), recent timber management and salvage programs, oil/gas leasing program (environmental assessment - February 1981), and the Grizzly Bear Cumulative Effects Study (February 1981); the latter study identified impacts to the North Fork grizzly population and modified some forest management activities (1981-86) to reduce or eliminate such impacts.

The U.S. Forest Service implements an on-going sustained yield logging and forest management program in the Flathead National Forest in accordance with the 1969 Timber Management Plan. Since the early 70's, the forest has been infested with a mountain pine beetle epidemic which has infected and killed over 150,000 acres of forest, primarily lodgepole and whitebark pine in the Glacier View District. An accelerated program for logging dead and dying trees was begun in 1977 and over 3,000 acres have since been salvaged. About 25 million board feet (MMBF) of timber was removed from the district in each of fiscal years 1979 and 1980. Timber sales for FY 1981 were scheduled to be 26 MMBF. Sustained yield logging for future years is projected at about 20 MMBF per year or 2,000 acres per year for the next 5 years.

The Forest Service manages about a 1/4 mile corridor along the North Fork River to maintain the corridor's natural scenic, and recreational values as required by the North Fork's designation as a "scenic" and "recreational" river under the Wild and Scenic Rivers Act. This river corridor has experienced increasing developed and dispersed recreational use as have the upland backcountry areas of the Whitefish Range. These recreational uses and developments are discussed in the "Scenic/Recreational Resources" section.

Small scale mining of low-grade coal occurred in the late 1800's to early 1900's near the Coal Creek area. Some limited gold mining and oil exploration also occurred. The only recent mineral-related use in the Glacier View District has been considerable and increasing oil and gas seismic explorations allowed by permit in the uplands of the district. Oil and gas rights leasing in the entire Flathead Forest had been delayed until completion of a Forest-wide environmental assessment (completed in February 1981) on the leasing proposals. Applications for oil/gas leases have been filed on 91 percent of the district lands. No significant discoveries of oil or gas are known to have been made in the North Fork but exploration companies often do not advertise such discoveries and the North Fork is still considered to have the best potential for gas discoveries in the Flathead Forest. Exploratory wells will probably be drilled in the northern portion of the Glacier View district within a few years.

The Forest Service also manages its activities to sustain endemic fish and wildlife populations (in cooperation with Montana Department of Fish, Wildlife, and Parks and U.S. Fish and Wildlife Service), provide for proper water quality and quantity production, and provide management of developed and dispersed recreational uses in the forest. In addition, private domestic livestock grazing, often a common use on national forest lands, is very limited on the Glacier View District lands due to the District's remoteness, heavy tree cover, and competitive use by native grazing wildlife. One permittee for 28 AUMs (animal unit months) is currently grazing in the western river valley bottoms; another for 14 AUMs grazed in the south valley bottom in previous years.

The National Park Service manages the eastern side of the North Fork drainage (up to the Canadian border) for preservation of its wilderness attributes according to the Glacier National Park Master Plan of 1977 and Resource Management Plan of 1980. This plan states that "the management and development of this area (northwestern Park) will be geared to that group of visitors who leave the main traveled routes for the wilderness areas." The Park Service believes that the North Fork valley is and should be a "wilderness threshold" to the defacto wilderness of the park and that the North Fork is an important area providing critical seasonal support to many species of Park wildlife. Many important wildlife populations including the grizzly, wolf, and the several ungulate species have ranges extending onto both sides of the river. These animals frequently move on a seasonal or diurnal basis from the Park to the National Forest (or private lands) and back to the Park. The uniqueness of the Park's living resources caused it to be designated on a "World Biosphere Reserve" by the United Nations in 1974.

The Park Service also manages its 1/4-mile corridor on the east side of the river to maintain its natural, scenic, recreational, and wilderness attributes according to the Wild and Scenic Rivers Act. Other phases of Park management in this northwestern corner of the Park are consistent with the goal of maintenance of wilderness qualities; these include no cutting of the large stands of beetle-killed timber, maintenance of only primitive roads and primitive campgrounds in this portion of the Park, and relatively complete protection of wildlife resources (i.e., natural controls).

The Park has had problems since the late 1960's involving infrequent grizzly encounters with Park visitors resulting in some damage, several maulings of visitors, and some human deaths. Problem bears have been relocated from visitor-populated or frequented Park areas or, as a last resort, killed to protect visitors. Management of the northwestern portion of the Park as wilderness is viewed as one means to help keep potential visitor contact with grizzlies to a minimum in this important grizzly habitat.

Finally, Glacier National Park was described in the 1980 "State of the Parks Report" to Congress as the National Park most threatened by development and urban encroachments adjacent to the Park and impacting on Park resources. The potential cumulative effects of these activities on Park resources have been a focus of concern since the late 1970's and are discussed further in the "Endangered and Threatened Species" section of this document.

The Montana Division of Forestry (DOF) manages the Coal Creek State Forest and six smaller parcels of State Lands off of the North Fork Road. The Coal Creek State Forest is about 6 miles north of the Camas Junction. Like the Flathead National Forest, the State Forest lands are managed for multiple uses including timber production, recreational use, fish and wildlife production (in coordination with MDFWP), water production, and mineral development. Most of the financial return from resource management goes to augment state school funding. Most forest activities are handled much the same as on the National Forest. The pine beetle epidemic has infested or killed over 2,000 acres of State Forest lands; most of this dying or dead timber has been removed. The DOF projects a low level of a sustained yield logging in the near future. The DOF also manages about 4 miles of the North Fork Scenic River corridor to maintain natural, scenic, and recreational values of the corridor by agreement with the U.S. Forest Service. As on the National Forest, diverse back-country recreational activities are also managed on the State lands. No recent significant mineral development has occurred on State lands; however, the DOF intends to lease most of the State Forest lands (14,600 acres) for oil and gas rights. No domestic livestock grazing occurs on State Forest lands.

The Montana Department of Fish, Wildlife, and Parks (MDFWP) is responsible by state law for the management of fish and wildlife resources in the State of Montana including the regulation of hunting and fishing. Federal, State, and local land managers in the North Fork generally are responsible for multi-use

management including sustaining fish and wildlife habitat; these land management agencies usually coordinate fish and wildlife habitat management decisions with the MDFWP and U.S. Fish and Wildlife Service.

Flathead County (and private landowners) has jurisdiction over about 18,400 acres of private land inholdings in the National Forest mainly along the North Fork River and centered on the community of Polebridge (see Area Map). Being an outlying area, there are relatively few county-provided services and few county regulations regarding the land. The County maintains the North Fork Road from Columbia Falls to the Canadian border. The County has surfaced a 5 1/2-mile portion of the road with cold mix asphalt between the Coal Creek State Forest and Polebridge and intends that the entire road between Columbia Falls and Polebridge be paved. The County Sheriff provides very limited law enforcement and rescue service to the North Fork. No electricity, telephone (except a line to the Polebridge store), water, sewer, or garbage haulout is provided to the North Fork landowners; the landowners provide their own services such as electricity from gas/diesel generators, local domestic water, local septic tanks, and contracted garbage removal.

Some clearing of the private lands occurred with early homesteading in the North Fork (late 1800's-early 1900's). Homebuilding and limited livestock and farming operations also caused some land clearing. Faced with the recent pine beetle infestation, most landowners logged extensive parts of the private land to reduce fire hazards and obtain some of the financial worth of the dying trees.

Subdivision of the private lands has rapidly increased since the late 1960's as have permanent and seasonal residents and cabins scattered across private lands. About 20 percent (4,000 acres) of the private land has been subdivided. The current estimate of residents is 60 year-round resident families and 80 additional seasonal families; in contrast, 10 years ago, the estimates were 25 year-round and 75 additional seasonal families. Until the late 1960's, land generally remained in the hands of relatively few owners, primarily homesteaders' families. Subdivision and sell-offs were encouraged by the inflation of land values, increased public interest in recreational land and seasonal homes, increased interest in retirement homes, and increased taxation of private lands in the North Fork. Subdivision has resulted in some small lots near the Canadian border and 3-5 acre tracts further south toward the Coal Creek State Forest. In contrast, the Flathead County Comprehensive Plan (1978) recommended a development density of approximately one dwelling unit per 80 acres in order to retain the semi-primitive character of the North Fork.

The County has classified the entire North Fork for agricultural/silvicultural uses which allows residential and commercial site developments. Current County policy is that more restrictive zoning can only occur upon petition by the majority of affected landowners. The Montana State Subdivision and Platting Act requires county review and approval of classical subdivision proposals for land division below 20 acres. However, provisions in the

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statute allow several means of small parcel selloff or transfer without county review. This has frequently occurred giving rise to defacto subdivision in the North Fork. The County also implements health regulations related to sewage disposal and domestic water supply. Due to the relatively low population in the area (population = about 250 with less than one-half being full-year residents) and relatively good water supplies and land drainage, these regulations have not been an inhibitory influence on development in the North Fork.

The U.S. Forest Service has been negotiating agreements, purchasing restrictive easements, and purchasing limited amounts of private lands (1,583 acres since 1977) in order to maintain the natural, scenic, and recreational values of the private portion of the corridor. Easement negotiations and purchase have slowed recently due to lack of program funding (236 out of 240 needed easements remain to be purchased). Because of low levels of funding, little easement or fee purchase activity is expected in the future. The Flathead National Forest also has exchanged some lands elsewhere in the Forest for some private lands in the North Fork. Some very limited oil and gas exploration has occurred on private lands. Grazing of horses and cattle is not uncommon and may increase in the future with increased land clearing, year-round population, and recreational use.

The British Columbia Forest Service manages almost all of the land in the Canadian portion of the North Fork drainage. A few small private inholdings are found near the river. The North Fork road enters Canada via a recently enlarged U.S./Canadian border station. The road near the border is relatively primitive. Like the U.S. forest, the Canadian forest has been infested with mountain pine bark beetle (more than 50,000 acres). The B.C. Forest Service has aggressively removed most of this infested timber with large clear cut areas just north of the border and adjacent to Glacier Park and the Flathead Forest (about 90 MMBF was hauled out in 1978 alone). The B.C. Forest Service intends to continue logging almost all beetle-infested areas at a rate of about 5,500 acres per year. This timber is generally hauled out to the north and west to mills in towns such as Fernie, Morrissey, and Michel; currently, however, cuts of dead/dying trees are being hauled down the North Fork Road to mills in Columbia Falls.

Oil, gas, and coal exploration (and limited development) is being aggressively pursued in the Provincial Forest. About 80 percent of the Canadian Forest is currently under oil/gas rights lease to Shell Oil Company. Seismic studies have been conducted and exploratory oil/gas wells have been and are being drilled just north of the border. No significant deposits of oil or gas have yet been reported although such finds are often not reported.

Two large deposits of high-grade surface coal (152 million tons) have been found about 7 miles north of the border along Cabin Creek/Howell Creek--important tributaries supporting the North Fork fisheries. The Rio Algom Corporation has development rights for the Cabin Creek open-pit coal mine proposal

and is working on the second stage of a three-stage review and approval process required by the British Columbia Provincial Government. The mine will have an estimated variable workforce of 400-530 workers probably residing in Fernie and driving to the mine site on an improved road. A trailer construction camp is proposed at the mine site. The mode of haulout of the coal will be via trucks north to a rail facility in Morrissey. About eight coal trucks per hour (loaded and empty) are expected 364 days per year and 24 hours per day. The B.C. Government or Rio Algom will improve and pave the road north and west out of the drainage to allow for coal haul, worker access, and equipment/supply hauling to and from the mine. Electricity supply into the drainage is planned. Coal haul out south in to Montana is not considered likely due to local economics (a long haul) and the development orientation of the British Columbia Government. Fernie would probably be the major service center supporting the mine although the possibility exists that Polebridge, Columbia Falls, and Kalispell may provide significant service support or be economically influenced by the Cabin Creek mine or potential gas/oil development. The production life of the Cabin Creek mine is estimated at about 21 years beginning not earlier than 1985. The current economics of thermal coal in the area has slowed the approval and development schedule of the mine. Two other smaller coal mine proposals are also being developed in the B.C. portion of the North Fork about 30 miles north of the border near the headwaters of the North Fork.

Geology/Soils/Topography/Seismicity

The dominant landforms in the North Fork Flathead River basin resulted from general regional uplifting with localized downfaulting 60 to 70 million years ago during the early Tertiary Period of geologic history. This portion of the Northern Rocky Mountains uplifted on a northwest to southeast axis with river valleys between major mountain ranges. The North Fork Flathead is one such river valley enclosed by and draining the Livingston Range (the Continental Divide in Glacier National Park) on its eastern flank and the Whitefish Range (in Flathead National Forest) on the west. The headwaters of the North Fork basin are in the Clarke (east) and McDonald (west) Ranges of British Columbia about 90 river miles (60 air miles) upstream from the mouth of the river (at its confluence with the Middle Fork Flathead - see Drainage Map). The area drained by the North Fork is 1,548 square miles.

Continental and alpine glaciers moved down the North Fork and its tributary valleys during the Pleistocene Ice Ages. The last such glaciers receded about 10,000 years ago. As the glacier receded, the North Fork and its tributary valleys were left much as they are found today. The North Fork flows through a typical broad U-shaped intermountain valley about 4 to 8 miles wide through most of its length. A wide, unstable channel and flat bottomland meadows (some wet) are common in the middle and northern portions of the valley, while, in the lower 15 miles, the river is frequently entrenched in a deep and relatively narrow channel bordered by walls of steep bedrock, unstable fractured bedrock, or glacial till. Tertiary-age sediments were

reworked by the glaciers and redeposited as glacial till to form the common lateral terraces above the river floodplain and along tributary streams. These benches of glacial till are usually gently sloping (3-10%) except at steep lateral margins and cut banks along the river or tributaries. Bedrock outcrops (sandstone, siltstone, limestone, and shales) are common along the river channel and in the uplands of the Whitefish Range to the west. Above the relatively narrow glacial terraces on the west side of the river, are steep foothills leading up to 6,000- to 9,000-foot subalpine ridges of the Whitefish Range. On the east, the upland slope is more gentle in a 10-mile gradient up to the 4,000- to 6,000-foot elevation. Above this elevation, the slope is steep up to the sheer 10,000-foot alpine peaks of Glacier National Park's Livingston Range. Steep-sided, glacially-carved, U-shaped valleys bring 28 major tributaries into the North Fork from the high country.

The soils of the North Fork floodplain are generally shallow, coarse-textured alluvial sands, loams, and gravels up to boulder-size rocks. A few slack-water floodplain areas have accumulations of silt or clay sediments. Fans of alluvial deposits are found at the mouths of creeks entering the North Fork. Soils of the terraces above the floodplain are characteristic of glacial deposits. Such glacial till is usually moderately thick (20-40 inches) poorly consolidated, and with good drainage of surface soil layers but with poor drainage in compacted sublayers. The soil consists of gravelly/silty or gravelly/sandy loams with numerous rock fragments and with a thin loessal (wind blown soil or debris) and humus cover. When vegetative cover is removed from the steeper areas or when cutbanks are exposed to erosion by streams or runoff, significant erosion and/or mass slope failure often occurs. Examples of such natural and man-caused erosion are common throughout the North Fork valley. Although not considered fertile, these soils are rated as moderate to high in productivity with relatively dense vegetative growth especially on more moist east- and north-facing slopes and near streams. None of these soils are considered to be good farmland and are generally suitable only for forest and grassland growth. There are no prime or unique farmlands in the area.

The North Fork is underlain by a deep, ancient, and complex geologic zone known as the Overthrust Belt which includes much of western Montana and extends from northern Canada down to Mexico. Within this zone, ancient Precambrian rock layers have been deformed and thrust up over younger rock layers. These younger rock layers characteristically hold oil and gas reservoirs which, if present, now lie under the overthrust rock layer. Because of this subsurface geology, the North Fork (and much of western Montana) is thought to have promising oil and gas discovery potential. Seismic studies are being conducted and exploratory wells drilled in the Canadian portion of the North Fork; seismic investigations are occurring in the Flathead National Forest portion. Large surface deposits of high grade coal have been found just north of the border near Cabin Creek. The Canadian government is in the final stages of study for the proposed surface mining of this resource.

The entire northwestern Montana area is considered to be in seismic zone 2 where moderate damage from earthquakes could occur. Such earthquakes could approximate an intensity of VII on the MM Scale (Modified Mercalli). This classification is based on known distribution and intensities of past earthquakes, evidence of strain release, and consideration of major geologic structures believed to be associated with earthquake activity. Most earthquake activity in western Montana has occurred in the southern portion of the state's mountain chain. A few earthquakes of intensity V to VII have been known to occur in northwestern Montana during the last few centuries.

Climate/Water Resources/Water Quality

The climate of the North Fork valley is primarily influenced by warm, moist air masses from the Pacific Ocean. This generally produces a milder and wetter climate than found east of the Continental Divide where colder and dryer continental air masses prevail. Cold continental weather fronts do frequently modify the prevailing influence of westerly air. The high elevations of both the Whitefish and Livingston Ranges receive considerably more precipitation than does the North Fork valley. The high Whitefish range receives up to 80 inches of precipitation per year while the high Livingston range receives up to 120 inches per year. The North Fork Valley receives an average 20 to 25 inches of precipitation per year. This valley precipitation is supplemented by high runoff and groundwater flows from higher elevations (the ground seldom freezes due to snow cover). Most of the precipitation (about 75 percent) falls as snow from October through February; June is a characteristically high rainfall month. Annual total snowfall may exceed 500 inches at high elevations and may exceed 150 inches in the valley. Valley temperature extremes range from about 100° F. to -30° F; average temperatures are cool with an average July temperature (average of all day/night temperatures) of 61° F. and an average January temperature of 17° F. The length of the frost free season in the valley (Polebridge) may be only 30 days. The weather is generally cloudy and humid except during the clear midsummer. Valley winds are generally light (less than 10 mph) and related to diurnal up/downslope valley drainage. High winds can occur during storms. Variations in elevation, exposure, aspect, and slope modify the overall climatic conditions and produce a range of moisture and temperature microclimates.

The water resources of the North fork include the river (and its floodplain), 14 major tributaries draining the Whitefish/McDonald Ranges on the west, 14 major tributaries draining the Livingston/Clarke Ranges on the east, groundwater flows from the high country to the river/tributaries, and numerous wet meadows adjacent to or within the North Fork floodplain (see Drainage Map). The North Fork Flathead River is one of the headwaters of the Columbia River by way of the Flathead, Clark Fork, and Pend Oreille Rivers. Streamflow records of the North Fork show large streamflow fluctuations mainly related to spring snowmelt and runoff; maximum flows typically occur in late May-early

June. Substantial year-round base flow is contributed by continuous ground-water flow into the river/tributaries as well as a more stable flow from four of the tributaries within Glacier Park which have large deep lakes (Kintla, Bowman, Quartz, Logging Lakes) which act as natural reservoirs.

The average daily discharge of the river near the Canadian border is about 1,000 cfs; at this location, the river channel is about 100 feet wide. At the mouth of the North Fork where it joins the Middle Fork, average daily discharge is about 3,000 cfs and channel width is about 300 feet. The maximum recorded discharge at the mouth was 69,100 cfs during the flood of June 1964. The minimum recorded discharge at the mouth was 198 cfs in January 1953. The average maximum discharge each year is 20,000-25,000 cfs. The average minimum discharge each year is about 350 cfs.

In the northern and central segments of the river, the North Fork meanders in a broad floodplain (up to 2 miles wide) often with a shifting, braided channel bordered by gravel bars, silty delta, and wet meadows usually near the entrances of the tributaries. In the lower river segment below Big Creek, the river is relatively straight and often confined to a deep and narrow channel and frequently between steep walls of bedrock or glacial till. Log jams, debris catch areas, and seasonally-flooded slackwater floodplain areas are common along most of the river. Riparian vegetation is usually not dense and the river channel is usually not well shaded. The river bottom consists of large gravels up to boulder-sized rocks with frequent exposures of bedrock. The entire river channel is seldom less than 2 feet deep and it flows rapidly along a fairly consistent profile drop of 15 feet per mile.

The east tributaries to the North Fork generally contribute higher quality water (less suspended sediments, less turbidity, lower dissolved ions) due to their draining the undisturbed de facto wilderness of western Glacier National Park. The large lakes mentioned earlier also serve to dampen any fluctuations in water quality. The west tributaries drain the Flathead National Forest and about 18,400 acres of private land which are managed for multiple uses (see "Land use" section) and generally contribute higher pollutant levels (suspended sediments, turbidity, mineral nutrients, sewage organics, litter). The river system is considered to be relatively pollution free except for higher turbidity and suspended sediment during the high spring flow period.

The North Fork Flathead River is considered to be one of the cleanest, clearest, fast-moving, cold water streams in the country. Abundant precipitation, dense upland vegetation, relatively immature and sterile soils, have contributed to maintaining the pristine quality of the waters of the North Fork. Natural erosion where the river/tributaries cut into unconsolidated glacial till are the primary source of natural pollution. Most (about 80-90 percent) of the natural and man-caused runoff erosion, and resultant sediment load and turbidity occurs during the May-June high runoff/high flow period. Human uses and disturbance on both public and private land have increased

significantly since 1970; activities such as road building, logging, mining, energy exploration, land clearing for subdivision, grazing, recreational use impacts, and disposal of human waste/litter are adding to the potential pollutant loading of these waters. Significant increases in these unnatural sources of pollutants or cumulative moderate increases could degrade the quality of North Fork waters in the near future unless positive control measures are implemented by land managers.

Following is a table which summarizes the typical existing ranges of important water quality parameters in the North Fork (near its mouth):

	<u>Spring High Flow</u>	<u>Summer Flow</u>	<u>Fall/Winter Low Flow</u>
Flow	22,000 cfs	2,700 cfs	350 cfs
Temperature	45° F.	60° F.	32° F.
Turbidity	20 NTU	1 NTU	0 NTU
Dissolved Oxygen	10.4 mg/l	9.6 mg/l	12.5 mg/l
pH	7.9	8.3	8.2
Suspended Sediment	930 mg/l	<10 mg/l	<10 mg/l
Dissolved Solids (ions)	140 m ohms/cm.	160 m ohms/cm.	200 m ohms/cm.
Fecal Coliform Bacteria (sewage- contam. indicator)	6 colonies/100 ml.	30 colonies/100 ml.	0 colonies/100 ml.

These data confirm a stable base-flowing, very cold, very clear, pollution-free, moderately buffered (mildly alkaline-bicarbonate) stream with dissolved oxygen levels near saturation; they also indicate that, during certain seasons, suspended sediment and localized fecal coliform bacteria levels may be current or future limiting factors in maintenance of overall water quality. The Montana Department of Fish, Wildlife, and Parks and the federally sponsored Flathead River Basin Study believe that significant increases in the levels of these two parameters along with potential acid and heavy metals drainage from coal mining operations in Canada could markedly reduce the quality and the natural/social values of the North Fork waters.

The Stage II Environmental Assessment, January 1982, for the Cabin Creek Coal Mine Proposal outlined the following impacts to surface and subsurface water quality in the mine area:

1. Suspended solids and short-lived sedimentation and turbidity may increase somewhat from the mine and haul road but will be kept to a minimum with good construction practices, reclaiming exposed soil areas with vegetation as quickly as possible, and by a complex of ditches and sediment ponds that will be part of the mine Water Management Plan. The effects of increased suspended soils and turbidity are expected to be minimal. Sediment loading to upper Cabin and Howell Creeks has increased recently due to logging activities but these levels are reduced naturally within the streams before reaching the mine site.
2. Potential oil or chemical spills and coal processing wastes most likely will be contained within a "closed circuit" of containment dikes, sumps, and ponds for storage, treatment, and eventual discharge of clean water only.
3. Due to low acid content and based on acute lethal bioassays, no acids or toxic materials are expected to leach from the coal pits, overburden dumps, or processed coal piles.
4. Sewage and nitrogen-containing residues from blasting will be treated for reduction of nutrients. Levels of these pollutants are expected to be well below the standards required for drinking water and protection of aquatic life.

The Stage II Assessment summarizes these impacts as follows: "Water quality effects on Howell and Cabin Creeks are expected to be minimal. Due to further dilutions, effects on the Flathead River would not be significant. A water quality monitoring program will be established that coincides with (mine) construction . . . Contamination of local ground water by the mine development is not anticipated. The Water Management Plan has been devised to prevent contamination of both ground and surface water."

Vegetation

The vegetation of the North Fork and its tributary floodplains includes plants characteristic of seral riparian communities with scatterings of species found in the nearby upland coniferous forest. On the margins of the river and tributary channels, on silt deltas, sand/gravel bars, and in the wet meadows, the following plants are common: black cottonwood, willow, aspen, alder, sedges, spruce, big sagebrush, hawkweed, locoweed, wild onion, milkvetch, bearberry, and numerous bunchgrasses/fescues. In addition to these plants, the following vegetation is usually found on more stable and dryer floodplain areas: dogwood, chokecherry, hawthorne, lodgepole pine,

paper birch, horsetail, dandelion, clover, timothy, bunchgrasses, cow parsnip, angelica, honeysuckle, hedsarum, aster, and bedstraw. This floodplain vegetation is important in the ecology of the North Fork since many large ungulates, grizzly bears and black bears, furbearers, several predatory birds and other mammals, as well as the North Fork and Flathead River basin fishery depend either directly or indirectly on this highly productive and diverse habitat.

The upland glacial terraces above the North Fork/tributary floodplains are forested with more or less dense coniferous cover depending on fire history, slope, aspect, etc. The climax forest of this area is the spruce/subalpine fir forest but past fires in the North Fork have maintained more extensive mixed and monotypic successional stands of lodgepole pine, western larch, Douglas-fir, and aspen. Ponderosa pine and junipers are also found along with Douglas-fir on drier south- and west-facing slopes. Western red cedar and western hemlock are found mainly along the southern section of the river. The understory of the lowland forest can include many of the floodplain species listed above and commonly include the following: plaitain, ninebark, oak fern, spiraea, yarrow, fireweed, meadow rue, queencup beadlily, beargrass, coltsfoot, vetch, goldenrod, mountain grape, thimbleberry, serviceberry, snowberry, huckleberry, buffaloberry, wild strawberry, wild rose, pinegrass, orchardgrass, bromegrass, and bluegrass.

Progressively denser forest cover occurs at higher elevations of the North Fork valley; the spruce/subalpine fir forest dominates with scatterings of whitebark pine up to timberline at about 8,000 feet. (Taxonomical names of plants are given in the accompanying table.)

Common Names

Species

black cottonwood	<u>Populus trichocarpa</u>
willow	<u>Salix spp.</u>
aspen	<u>Populus tremuloides</u>
alder	<u>Alnus spp.</u>
mountain maple	<u>Acer glabrum</u>
spruce	<u>Picea engelmanni</u> , <u>P. glauca</u>
sedge	<u>Carex spp.</u>
wild onion	<u>Allium cernum</u>
locoweed	<u>Oxytropis campestris</u>
milkvetch	<u>Astragalus spp.</u>
bearberry	<u>Arctostaphylos uva-ursi</u>
bunchgrass	<u>Festuca spp.</u> <u>Agropyron spp.</u>
dogwood	<u>Cornus stolonifera</u>
chokecherry	<u>Prunus virginiana</u>
big sagebrush	<u>Artemisia tridentata</u>
hawthorn	<u>Crataegus spp.</u>
lodgepole pine	<u>Pinus contorta</u>
paper birch	<u>Betula papyrifera</u>

horsetail
 dandelion
 clover
 timothy
 cow parsnip
 angelica
 honeysuckle
 aster
 bedstraw
 oak fern
 arnica
 whitebark pine
 Ponderosa pine
 Douglas-fir
 common juniper
 western larch
 subalpine fir
 western hemlock
 western red cedar
 plaintain
 rinebark
 spiraea
 yarrow
 geranium
 fireweed
 meadow rue
 queencup beadlily
 hedysarum
 hawkweed
 beargrass
 coltfoot
 vetch
 goldenrod
 mountain grape
 thimbleberry
 serviceberry
 snowberry
 huckleberry
 buffaloberry
 wild strawberry
 currant
 wild rose
 pinegrass
 orchardgrass
 bromegrass
 bluegrass
 wildrye

Equisetum arvanse
Taraxacum officinale
Trifolium spp.
Phleum pratense
Heracleum lanatum
Angelica spp.
Lonicera involucrata
Aster spp.
Galium spp.
Gymnocarpium dryopteris
Arnica
Pinus albicaulis
Pinus ponderosa
Pseudotsuga menziesii
Juniperus communis
Larix occidentalis
Abies lasiocarpa
Tsuga heterophylla
Tsuga plicata
Plantago major
Physocarpus spp.
Spiraea betufoia
Achilles millefolium
Geranium viscosissimum
Epilobium augustifolium
Thalictrum venulosum
Clintonia uniflora
Hedysarum alpinum
Senecio
Xerophyllum tenax
Petasites spp.
Vicea americana
Solidago spp.
Berberis aquifolium
Rubus parviflorus
Amelanchier spp.
Symphoricarpus albus
Vaccinium
Shepherdia canadensis
Fragaria virginiana
Ribes lacustre
Rosa spp.
Calamagrostis rubescens
Dactylis glomerata
Bromus vulgaris
Poa spp.
Elymus glauca

Fishery

The Flathead River system is classified as a "Class I" stream according to Montana's stream classification criteria. It receives moderately heavy and increasing fisherman use. This river system includes Flathead Lake, the main stem Flathead River, and the North/Middle/South Forks of the Flathead and their tributaries. The fishery is characterized by several species of important migratory and non-migratory (resident) fish species and prolific populations of aquatic insects, the primary food of these fish species. (Aquatic insects ranked according to importance as trout food organisms include mayflies, two-winged flies or Dipterans, stoneflies, and caddisflies.) Non-migratory fish populations generally remain in tributaries of the Forks. Migratory (or adfluvial) fish are those which generally move seasonally from Flathead Lake or the main stem Flathead River up into the Forks and their tributaries to spawn and return to the Flathead River and Flathead lake. Important migratory fish of the North Fork and Middle Fork Flathead include native bull trout (may also be called "Dolly Varden" locally) (Salvelinus malma), native westslope cutthroat trout (Salmo clarki), native mountain whitefish (Prosopium williamsoni), and introduced Kokanee salmon (Onchorhynchus nerka). Minor populations of other introduced migratory fish include rainbow trout, eastern brook trout, yellow-stone cutthroat trout, and arctic grayling. Introduced trout generally compete with native bull trout and westslope cutthroat trout. Some hybridization of native and introduced cutthroat trout has also occurred. Native populations of non-game fish include shorthead, mottled, and slimy sculpins, northern squawfish, peamouth, reidsided shiner, chubs, longnose and largescale suckers. Sculpins are believed to be migratory and spawn in the spring on the undersides of rocks in the Forks and their lower tributaries. This is a very complex fishery with diverse time and space distributions and interactions among migratory and nonmigratory, native and introduced, game and non-game fish species. The Montana Department of Fish, Wildlife, and Parks (MDFWP) estimates that 55 percent of recruitment for the Flathead basin fishery comes from the North Fork and 45 percent from the Middle Fork; the South Fork is blocked to fish passage by the Hungry Horse Dam.

Bull trout are the largest fish in the Flathead system and currently provide a trophy sport fishery with a large number of fish exceeding 6 pounds (18-36 inches). An estimated 19,000 bull trout over 18 inches are caught annually (about one-half of them are over 24 inches.) Bull trout are almost entirely migratory. Sexually mature adults (5-8 years old) leave Flathead Lake for the North Fork and Middle Fork each year during high spring and summer flows. They travel up the tributaries of the Forks to spawn in selected reaches (medium to coarse gravels) from August through October. Based on as yet incomplete surveys, slightly more critical spawning/nursery habitat is found in the Middle Fork (nine tributaries) than North Fork (seven tributaries). Four major spawning streams in each drainage were closed to

fishing in 1955 to protect these critical spawning streams. (The four closed streams on the North Fork support 47 percent of bull trout spawning.) Protection of remaining spawning habitat is important since an estimated 50 to 60 percent of bull trout spawning/nursery habitat in the Flathead system was lost when the Hungry Horse Dam was built in 1953 effectively closing the South Fork to adfluvial fish migration. Cabin Creek and Howell Creek in Canada are extremely important bull trout spawning/nursery tributaries which will likely be impacted by the Cabin Creek coal mine proposal. Howell Creek accounts for 18 percent of the total North Fork spawning. The North and Middle Fork tributaries support bull trout recruitment for the entire Flathead basin. (The Hungry Horse Reservoir and South Fork have a limited resident bull trout population.) After spawning, adult fish return to the main Flathead River and Flathead Lake. The eggs mature over winter and hatch in the gravels in March/April. The fry emerge from the gravel in April/May. The young fish spend 2 to 3 years in the tributaries before their spring/summer migration down the North Fork or Middle Fork and Flathead River to Flathead Lake where they will mature. The MDFWP and the fishing public are very concerned that the quality of the bull trout fishery be protected and maintained. In addition to the spawning stream closures, fishing season restrictions and catch number/size limitations have been in effect to protect prespawning fish in Flathead Lake and spawning adults in the North Fork and Middle Fork. Average density of bull trout is estimated to be 1.5 fish per 1100 square feet in the North Fork and 1.7 fish per 1100 square feet in the Middle Fork.

Westslope cutthroat trout are more numerous than bull trout, are smaller fish, and also provide an excellent trout fishery in the Flathead basin. Both nonmigratory and migratory populations of westslope cutthroat trout exist in the Flathead system. Non-migratory spend their entire life cycles in the tributaries of the North, Middle, and South Forks. Sexually mature adults (3 years old plus) of the migratory (adfluvial) population leave Flathead Lake and main stream Flathead River in late winter or early spring to spawn (in fine to medium gravels) in the tributaries of the North Fork and Middle Fork from late April to early July during peak stream flows. The adults return down the rivers by summer/fall and the fry hatch within about a month. Most of the young trout spend 2 to 3 years in the tributaries before moving downstream to the mainstem Flathead and Flathead Lake during a high spring flow. The North Fork and its tributaries is the most important drainage supporting the westslope cutthroat recruitment in the Flathead system. Based on as yet incomplete surveys, 17 critical spawning reaches have been identified in the North Fork and tributaries compared to 9 in the Middle Fork. The average density of westslope cutthroat is about 10 fish per 1100 square feet surface area in the North Fork and about 4 fish per 1100 square feet in the Middle Fork. In the North Fork, the west side tributaries provide the best trout spawning/nursery habitat probably because of the higher gravel content of the west side soils (35 to 60 percent gravel).

Mountain whitefish are more numerous than the combined trout populations (roughly ten times greater). Whitefish spend most of their lives in the mainstream Flathead River and the North and Middle Forks. The Hungry Horse Reservoir and South Fork above the reservoir also have a large whitefish population. During summer, whitefish move within the Flathead system up as far as the mouths of large tributaries of the North and Middle Forks. Spawning occurs from October to December in the slow water areas of the Flathead River and North and Middle Forks.

Kokanee salmon were introduced into Flathead Lake in 1916 and fall salmon runs were first observed in the mid 1930's. Since then, the salmon fishery has grown to become another important migratory fishery of the Flathead system. Sexually mature salmon (4 years old plus) migrate in late summer from Flathead Lake up the mainstream Flathead and up into a few tributaries of the Middle and North Forks. The adult salmon spawn from September to December and die in these tributaries soon after spawning. The drifting salmon carcasses provide food for one of the largest bald eagle concentrations in the country at McDonald Creek, a tributary of the Middle Fork draining extreme southwestern Glacier National Park. The salmon eggs mature over winter in the creek gravels, they hatch in March-April, and soon thereafter the salmon fry leave the tributaries and Forks for the Flathead River and Flathead Lake where they grow to maturity. In Flathead Lake the salmon feed on microscopic zooplankton supplemented by insects and worms. Resident Kokanee populations are also found in Bowman, Kintla, and McDonald Lakes of Glacier Park. These salmon remain in these lakes except to spawn in adjacent creeks. In 1982, the number of spawning salmon at McDonald Creek was less than in previous years. However, the Montana Department of Fish, Wildlife, and Parks indicated that this is considered to be only a temporary condition.

Wildlife

The wildlife of the North Fork valley is diverse and prolific--a unique product of the past isolation of the North Fork, its proximity to the de facto wilderness areas of Glacier Park and Canada, and its productive climate, vegetation, and fire history. Testimony to the significance of the region's wildlife is seen in Glacier Park's international designation by the United Nations as a World Biosphere Reserve in 1974. Several large ungulates, numerous predators, numerous furbearers, many birds, and some well known endangered or threatened species identify the terrestrial wildlife of the North Fork. Representative mammals of the North Fork include the following: grizzly bear, black bear, gray wolf (very rare), mountain lion, lynx, bobcat, coyote, mink, several weasels, marten, river otter, red fox, fisher, wolverine, badger, racoon, bats, skunk, white-tailed deer, mule deer, elk, moose, mountain goats and big horn sheep (at high elevation), woodland caribou (very rare--possibly near Canada), snowshoe hare, rabbits, porcupine, ground squirrels, chipmunks, squirrels, beaver, muskrat, pocket gopher, and numerous other rodents.

Grizzlies, black bears, mountain lions, deer, elk, moose, mountain goats, bighorn sheep, and various small mammals and birds are sport-hunted generally during fall hunting seasons. Black bears are also hunted in spring. A limit of 25 grizzly bears are allowed to be killed by hunting or any other human causes in the northwestern Montana ecosystem area. The Montana Department of Fish, Wildlife, and Parks and U.S. Fish and Wildlife Service allow grizzly hunting despite the bears' protected status in order to keep the bears wary and shy of man and to reduce bear-man confrontations and possible damage/injuries.

White-tailed deer are the most abundant ungulate in the North Fork valley. Mule deer and elk share similar habitat but are less abundant. Moose are infrequently found in wet meadows and dense spruce and fir pockets and aspen/willow/sedge bottom lands near the river and up tributaries usually in the northern portion of the drainage. White-tail deer and mule deer utilize an important winter range in the floodplain/lowland area near the river from Big Creek to Camas Creek (see Area Map). Along the northern two-thirds of the North Fork river and particularly into Canada, the floodplains, islands, and lowlands on both sides of the river are generally used as important winter range for deer, elk, and moose. The Coal Creek State Forest has an area of winter range comparable in size to the Big Creek winter range. Ungulate summer ranges generally extend up both sides of the North Fork valley and down the west slope of the Whitefish Range. Winter range is considered the limiting factor for deer and elk in the North Fork. Mule deer and elk tend to winter in upland areas of the winter ranges while white-tail deer are found in the river and creek bottoms and low terraces. The Big Creek winter range is heavily browsed by deer and elk and is considered to be very important and limited habitat by the Montana Department of Fish, Wildlife, and Parks. There are no well-defined wildlife crossings along the project except in the winter range where wildlife movement is more intense.

The following is a list of some of the birds of the North Fork (among over 100 species found): bald eagle, golden eagle, goshawk, several hawks, peregrine falcon (rare migrant), osprey, owls, raven, crow, great blue heron, kingfisher, ouzel, flycatcher, killdeer, sandpiper, pipe siskin, gulls, pileated woodpecker, several other woodpeckers, jays, swifts, song sparrows, several swallows, many other songbirds, common loon, green-winged teal, dippers, mallard, Canada geese, pintail, mergansers, golden eye, and several grouse.

The Big Creek-Camas winter range area also provides old-growth Douglas-fir and larch which harbor such cavity-nesting birds as the rare pileated woodpecker. These birds require mature or over mature trees for nest building; the winter range provides such old-growth trees.

Insects, especially aquatic insects, are numerous and relate to the diverse bird population and important fishery of the North Fork and Flathead River system. Various reptiles and amphibians are present but are not abundant in this cool climate.

Threatened and Endangered Species

Four endangered or threatened species are present or have been known to occur in the proposed project area: the grizzly bear, Ursus arctos horribilis - threatened; the gray wolf, Canis lupus - endangered; the bald eagle, Haliaeetus leucocephalus - endangered; the peregrine falcon, Falco peregrinus anatum - endangered. These species are classified and protected under the federal Endangered Species Act of 1973, amended in 1978. Critical habitats for these species have not yet been designated in the North Fork region although important habitats for the grizzly, wolf, and bald eagle exist in the North Fork.

The grizzly bear had a historical range which included most of the western United States from the Great Plains to the Pacific Ocean and from Alaska and Canada to Mexico. The bears were found on high mountains down to the grasslands of the plains. With the coming of European settlers, their homesteading for farming and grazing, and with man's hunting of the bears for food, sport, and self-protection, the grizzly's range in the lower 48 states has been steadily contracting. Today, the grizzly is found in a few remote forested-mountain areas of Wyoming, Montana, Idaho, and Washington. Canada and Alaska still have relatively large and stable grizzly populations. The North Fork Valley is contiguous to the large expanse of grizzly habitat in British Columbia. Along with the Whitefish Range and adjacent Glacier Park, this area supports one of the two remaining substantial grizzly populations in the lower 48 states; the other area is the Yellowstone National Park region of Wyoming and Montana.

Grizzlies require a large home range containing many diverse habitat types to support their life requirements for food, cover, and territory. The habitat of the North Fork region is considered good to excellent grizzly habitat supporting bear densities of one bear per 8 to 15 square miles. In some locations and seasons where desirable bear food is abundant, density may exceed one bear per one-half square mile (usually in productive habitat areas such as major floodplains, berry fields, snowslide shutes, etc.). Grizzlies utilize almost all parts of the North Fork drainage according to season and food availability. The bears frequently move from the uplands of the Park and Forest to the lowlands near the North Fork. Most prime grizzly habitat and bear activity occurs north of Camas and increases toward the Canadian border. However, a dispersed but important grizzly crossing corridor between the Park and National Forest occurs between Big Creek and Canyon Creek. They cross the North Fork Road primarily in the evening through early morning hours when the bears are active. Grizzlies also utilize carrion at the Big Creek winter range which is considered important grizzly spring habitat. The bears den through winter in caves or holes dug near timberline in locations where heavy snow provides cover and warmth. In spring, the bears emerge and move down cleared snowslide areas, clearing meadows, and drainages to low elevations such as the North Fork floodplain where they voraciously feed on early green-up grasses and forbs as well as the carcasses

of winter-killed animals. The North Fork floodplain and lowlands from Big Creek north are especially important habitat with these crucial food sources. In summer, the bears generally move to higher areas in the Park and National Forests to feed on ripening fruit, berries, roots, bulbs, insects, and forbs. In fall, the bears may utilize floodplains, lowlands, uplands, or high mountain ridges depending on food availability and weather. By the time dens are dug in November, the bears must have accumulated sufficient body fat reserves to carry them through the winter denning and movement down to the lowlands in spring. The bears are required to be ravenous feeders by their life cycle and physiology. Cubs (usually two) are born in the dens and nursed by the mother adding to her nutritional stress in spring.

An unfortunate part of grizzly diet and behavior has been its attraction to human foods, food scraps, and garbage. For a long time, the bears were allowed to feed on such material or even coaxed to do so by visitors, and the bears became used to this supplemental food source. Since the late 1960's, several people have been mauled or killed by grizzlies in the Glacier park area. A commonly accepted bear management principle now is that some bears have become too bold and not fearful enough of man in part because of their association with man and knowledge that human activities have in the past meant easy food. A growing concern now is how to keep the grizzly fearful and shy of man while protecting the bear from further decline due to man-caused activities.

There has been much speculation about the present and future health of the North Fork region grizzly population. Many local residents feel that the number of grizzlies is greater at present than at any time in recent memory. However, many biologists familiar with this grizzly population believe that the grizzlies are being subjected to too many adverse human activities occurring in this North Fork habitat including grizzly hunting, intensive logging of beetle-killed timber, oil and gas exploration and potential development, large scale coal development just north of the border in Canada, increased recreational use in Park and Forest back-country as well as along the North Fork as a component of the Wild and Scenic Rivers system, increased subdivision of private lands near and in the important grizzly habitat adjacent to the North Fork, and general road access improvement associated with these influences and the traffic they generate. A major concern of the U.S. Fish and Wildlife Service, Montana Department of Fish, Wildlife, and Parks, and the National Park Service is that the cumulative effect of all of these activities on the grizzlies, while not easily quantified, could seriously jeopardize the bears in the near future. In the past, unregulated and concentrated human activities and loss of habitat have meant the demise of the grizzly in other areas of the western United States.

The gray wolf or timber wolf had a historical distribution even more extensive than the grizzly, extending virtually throughout North America. For reasons similar to those causing the grizzly decline, the current distribution of gray wolves has contracted to a few remote mountain areas of Idaho, Wyoming,

and Montana--notably the Glacier National Park and Yellowstone National Park regions, remote areas of southern Texas and Mexico, and healthier populations in remote areas of Minnesota, Wisconsin, and Michigan. As with the grizzly, larger and more stable wolf populations continue to exist in Canada and Alaska. Wolves require large areas of semi-wilderness to travel extensively year round in search of prey, generally ungulates, rodents, and rabbits or hares. They require undisturbed areas with low levels of human activities in which to den, raise their young, and operate in their sophisticated pack-organized social structure.

Almost all the factors which adversely affected the grizzly likewise impacted the wolf. However, while the grizzly was and is looked on with considerable respect, even majesty, the wolf has been symbolized as the most vicious and determined predator of man and his domestic animals. As such, the wolf has been hunted, trapped, and poisoned throughout U.S. history. Government- and private-sponsored hunting and poisoning programs in the first half of this century almost eliminated the wolf in the lower 48 states except in the Great Lakes region. The wolf population of the North Fork region has never recovered from this program although the area is still thought to be good wolf habitat and an infrequent but recurrent travel corridor for wolves. Singer (Park Service Biologist) estimated that in the early 1970's, 5-10 wolves were using the North Fork drainage including parts of Glacier Park, the Whitefish Range, and British Columbia. In the recent past, only "lone wolves" (apparently dispersers from packs in British Columbia) were thought to travel the North Fork lowlands and floodplains infrequently and primarily during winter. However, in 1982, evidence of a breeding pair of wolves with a litter was found in the North Fork drainage near the border. Most current wolf activity is found north of the border and signs of packs are rare even in the British Columbia portion of the North Fork drainage. Most biologists familiar with the North Fork wolf situation believe that increasing activities of man in the area have caused adverse cumulative effects to the wolf and could eventually cause the loss of this residual wolf habitat. Most regional biologists see the grizzly and wolf with similar problems and similar needs for management and protection.

Bald eagles were once widespread across North America but use of chlorinated hydrocarbon pesticides severely reduced the reproductive success of the eagles. They have also been adversely affected by inadvertent poisoning, illegal shooting, and disturbances or destruction of their nesting, feeding, and roosting habitat by man. Bald eagle numbers were greatly reduced especially in the eastern and southern states. Recent efforts by recovery teams and interested parties to restore or protect habitat and reintroduce bald eagles appear to be making slow progress toward recovery of the eagle.

In the North Fork, a few pair of bald eagles nest in the upland forest areas near remote lakes of Glacier Park and the Flathead Forest. While nesting from March or April through July or August, the adult eagles usually feed on fish from nearby open waterbodies. They defend their nests until the young eagles

fledge from the nest in July or August. However,, adult eagles are sensitive to human disturbance during the egg laying, incubation, hatching, and pre-fledging period and severe or continued disturbance near the nest can easily cause them to abandon the nest and young. Fledglings are vulnerable during their flight training period but are soon able to fly, feed themselves, and migrate south for the winter.

Many more bald eagles use the North Fork as a migration corridor to and from their summer ranges in Canada and winter ranges in Utah, Colorado, Wyoming, Idaho, and other western states. As many as 1,000 eagles are thought to migrate through the North Fork. The more concentrated migration is the southbound fall migration when many of the eagle stop at McDonald Creek in southwestern Glacier Park to take advantage of the Kokanee salmon run. As many as 600 eagles have been counted in October or November along lower McDonald Lake, MdDonald Creek, and adjacent portions of the Middle Fork River feeding on the carcasses of spawned-out salmon which litter the stream bottoms and banks. (1982 counts of eagles at McDonald Creek were reduced probably because of lower numbers of migrating slamon. This is considered only a temporary condition.) The spring migration northward (March-April) is usually more dispersed although there have been some recent sightings of northbound groups of eagles in the North Fork. While migrating, the eagles generally remain close to major open water bodies such as the North Fork where food is usually available. Migration is thought to be a more stressful time for these birds and human disturbance adds to stress. The eagles are obviously highly mobile during migration and can move on to more suitable locations if disturbed. However, they too are thought susceptible to cumulative disturbance. Most recreational use in the North Fork (except for hunting) is over by the time fall eagle migration occurs; and, most human activities have not yet begun when the eagles migrate northward in March/April.

Peregrine falcons, like bald eagles, are broadly distributed across North America and have been even more severely affected by the use of persistent pesticides and disturbance of nesting habitat. Peregrine recovery efforts are also proving successful in some areas of the country although many birds may still be exposed to high levels of pesticides in their Central/South America wintering areas where such pesticides are still widely used. The falcons ingest and concentrate the pesticides from their prey (other birds) which have previously fed on pesticide-contaminated vegetation or insects.

Peregrines are thought to be infrequent spring and fall migrants through the North Fork but no recent sightings have been documented. No nesting is known to occur in the North Fork or adjacent parts of the Whitefish Range or Glacier National Park.

Scenic/Recreational Resources

The North Fork drainage is an extremely attractive mountain valley with spectacular scenery, wildlife, fisheries, and many high quality recreational opportunities as would be expected from its location adjacent to Glacier National Park. The North Fork Road is used by a substantial number of

visitors to the Park (see "Purpose and Need" section) who may leave or enter the Park via Glacier Park Route 8 which joins the North Fork Road at the Camas Junction. Another park entrance is at Polebridge farther north on the North Fork Road. Both of these are considered minor entrances to the park. The gravel surface, roughness, and narrowness of the North Fork Road and the remoteness of the area discourages routine use of the road so the majority of North Fork road travellers are residents and workers involved in forest activities (e.g., U.S. Forest Service, loggers, recreationists). Of the recreational visitors to the North Fork valley each year, most are local or regional residents of Columbia Falls, Kalispell or Flathead County, a lesser number are Montana or nearby state residents, and the remainder come from all over the country.

Recreational use of the North Fork has increased in the last decade despite temporary fluctuations due to scarcity of oil and economic slowdowns. Recreational use in the river corridor has increased dramatically in the past decade with 1900 recreational visitor days (RVD) in 1967 growing to 7,500 RVD in 1979. Total recreational use in the Glacier View District is expected to grow at 2 to 3 percent per year and reach almost 100,000 RVD's by 1985. Most local authorities and land managers believe that the designation of the North Fork as a component of the National Wild and Scenic River System with its attendant popularity will cause recreational use to continue to grow. The trend toward pursuing more leisure time and recreational activities is expected to sustain the steady growth in recreational use of the North Fork.

The North Fork River in the project area was classified in 1977 as a "recreation river" component in the Wild and Scenic Rivers system. This river section is managed by the U.S. Forest Service to emphasize free-flowing unpolluted waters, with ready public access (provided by the adjacent North Fork road), high scenic values, and the ability to accommodate large numbers of recreationists. The east side of the river is managed by the Park Service to maintain the natural wilderness characteristics of this remote portion of Glacier Park. North of Camas Junction, the river is classified as a "scenic river" and is managed to emphasize naturalness and semi-private recreational opportunities with free-flowing, unpolluted waters, limited road access (the North Fork road is usually well-removed from the river corridor), limited shoreline development, and outstanding scenery.

The North Fork road from Canyon Creek to Camas Junction parallels the river and is often immediately adjacent to the river allowing road users an exceptional view directly down into or across the river. The river is considered among the most scenic in the country with high volume of clear, fast moving, emerald green water meandering through dense coniferous forests or steep bedrock/glacial moraine canyons. While travelling the road, the river is also often obscured by dense coniferous forest which abuts the edge of the road and often creates a tunnel of vision down the road. There are few

panoramic views of the Whitefish range to the west because of the dense forest cover and because the foothills adjacent to the road limit the view to the foreground area. Views of the spectacular peaks of Glacier Park are seen from the road but the Apgar Range of low mountains across the river in the Park generally limit the range of view into the Park. The primary aesthetic components of the project corridor are the remote tranquility of the dense coniferous forest and the awesome beauty of the North Fork river. The North Fork road itself, being a gravel/dirt road, complements the remote character of the area but also often detracts from the setting with dust clouds behind logging trucks during dry weather and some steep, bare, and ravelling cut slopes along the road, some extending down to the river.

According to the U.S. Forest Service Wild and Scenic River Proposal Study (1977), "pleasure driving is the largest single recreational activity adjacent to the North Fork. Scenic views of Glacier National Park are outstanding. Fishing, berry-picking, camping, picnicking are also common activities. Limited tourist facilities are located near the river at Polebridge. Private land on the west side of the river could conceivably be developed to provide additional facilities." Other recreational activities in the North Fork include big game hunting, trapping, hiking, river floating, canoeing, kayaking, floating-fishing, cross-country skiing, ORV driving, snowmobiling, horseback riding, firewood gathering, and nature photography. These activities are dispersed across National and State Forest lands as well as in Glacier National Park (no hunting, trapping, ORVs, snowmobiles in the Park). The Glacier View District of the National Forest maintains two developed campgrounds with various levels of facilities (Big Creek and Moose Lake). The District had over 7,000 visitor days at these campgrounds in 1980. The District has about 60 miles of marked and groomed snowmobile trails mainly in the southern third of the drainage; use averages about 50-70 snowmobiles on a winter weekend day. The District has about 235 miles of hiking trails; these trails received about 400 recreational visitor days (RVDs) use by ORVs and 4,200 RVD by hikers. Four river access sites are provided by the District for floater access to the river above and below Camas. The combination of good road access to the river and large volume flow makes the North Fork an excellent river for floating. Floating and floating/fishing is rapidly gaining in popularity and three commercial floating operators now use the river by permit. By 1980, these operators were allotted permits for 1,000 floater days on Scenic section (north of Camas) and 1,500 floater days on the Recreational section (south of Camas). Only 10 percent of the allotted floater days were actually used. However, private (non-commercial) floating is increasing, especially by local floaters (Columbia Falls, Kalispell, Flathead County).

The North Fork road provides access to Glacier National Park at the Camas and Polebridge Park entrances. The visitor count at both entrances has been erratic in recent years. The Camas entrance ties to the rest of the Park via

the Camas Road (GNP Route 8) while the Polebridge entrance serves primarily the remote, wilderness-like northwestern corner of the Park. The Park Service has primitive campgrounds near the Polebridge Ranger Station and back country lakes and some primitive roads accessing the east side of the river and the lakes. This Park area is managed to maintain its wilderness qualities.

Air Quality Analysis

The section of Forest Highway 61 proposed for improvement is located in a rural area that currently supports light, rural residential development and National Forest activities. Results of ambient air quality testing indicate that the air quality in the North Fork Flathead River valley is excellent.

The Environmental Protection Agency (EPA) has designated certain areas of the United States as nonattainment areas for air quality. Special consideration must be given to any proposed highway improvement located within a nonattainment area or an air quality control region containing a nonattainment area. The town of Columbia Falls, 12 1/2 miles south of the proposal is designated by the EPA as a nonattainment area for particulates. It is not expected that the proposal will affect this nonattainment area, so no special considerations will be examined.

Carbon Monoxide -- An air quality analysis was prepared by the Federal Highway Administration (FHWA) utilizing EPA's Mobil 1 emission factor computer model. The California line source model, Caline 3, computer program was used to calculate the emission levels of carbon monoxide (CO) near the roadway. Estimates of CO were made for the design hour traffic under the worst probable meteorological conditions. The projected 1 hour worst case concentrations at the roadway for 1984 and 2004 traffic are less than 1 part per million. The meteorological conditions used for these calculations were: stability class 6(F), parallel wind of 1.7 meter per second, and a temperature of 70° F. The average vehicle speeds used were 30 mph for the existing road and 45 mph for the improved road.

Total Suspended Particulates -- The portion of the existing road covered by this statement is gravel and dirt surfaced. During the spring, summer, and fall months, automobile and truck traffic cause clouds of dust to billow up. Vehicles passing in opposite directions produce dust plumes thick enough to obscure the drivers' vision for several moments, and the pleasure of the driving experience is reduced.

This type of air pollution is known as fugitive dust. Fugitive dust is generally defined as a type of particulate emission made airborne by forces of wind, man's activity, or both. Examples are dust caused by unpaved roads, construction sites, tilled land or windstorms. Fugitive dust is measured in two ways. The total volume of dust in the air is measured with a high volume sampler. This sampler draws air through a pre-weighed filter for a 24-hour

period. Following the sample collection, the filter is again weighed. This sampling method measures a large size range of the particles (or dust) suspended in the air. The results are called the total suspended particulates (TSP) and are given in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

The second method for measuring airborne particulates uses a dichotomous sampler. This sampler filters the air like the high volume sampler, but uses two filters to separate the particles into two size ranges. These ranges are: (1) less than 2.5 microns, and (2) from 2.5 to 15 microns. Since the dichotomous sampler only collects particles 15 microns and smaller, and the high volume sampler collects particles up to 100 microns, results from the two samplers cannot be directly compared.

Three particulate samplers have been located in the vicinity of the proposed highway improvement since 1978. These sampling sites are a part of the Flathead River Basin Environmental Impact Study which is currently under way. The sites are located at "Moose City" (Moose City is not a town or a community, but is a local name for an area located in the North Fork valley near the Canadian border), Polebridge, and just north of Columbia Falls, Montana.

Additional sampling sites are located in the Flathead River Basin in and south of Columbia Falls, but are not specifically referred to in this statement.

The sampling stations are located away from the existing road, and do not measure the particulates in the immediate vicinity of the road. But they do show the quality of the air in the North Fork Flathead River valley which contains the existing gravel road. The sampling stations at Moose City and Columbia Falls-NAAC have high volume, TSP samplers. The station at Polebridge has a dichotomous (particle size) sampler.

The following data was taken from the "Flathead River Basin Environmental Impact Study, Interim Annual Report for July 1979 through September 1980" (air quality), prepared by the Air Quality Bureau, Environmental Sciences Division, Department of Health and Environmental Sciences, Helena, Montana, June 1981

Flathead Basin TSP Levels

Maximums, (Second High Reading), and [Arithmetic Average]*

Site	1978		1979		1980	
	Max	(2nd)[Ave]	Max	(2nd)[Ave]	Max	(2nd)[Ave]
Moose City	40	(18)[15]	15	(12)[10]		
Columbia Falls NAAC	59	(56)[25]	64	(63)[29]	81	(65)[29]

* All values in micrograms per cubic meter

Polebridge
Fine particulate Data*
Monthly Means and Maximums
September 1978 - September 1980

Month	<u>Less than 2.5 microns</u>		<u>2.5 to 15 microns</u>		<u>Less than 15 microns</u>	
	Mean	Maximum	Mean	Maximum	Mean	Maximum
Sept 78	14.1	21.1	6.3	7.0	20.4	26.5
Oct	13.4	24.1	6.5	13.2	19.9	36.8
Nov	9.5	15.7	5.3	7.3	14.9	23.0
Dec	6.5	8.1	2.6	3.2	9.1	11.2
Jan 79	7.9	9.9	2.2	2.4	10.0	12.0
Feb	5.2	9.5	0.8	1.4	6.0	9.5
March	6.7	9.5	1.4	2.6	8.1	12.1
April	8.3	16.0	5.7	19.4	14.0	35.4
May	7.4	9.4	6.4	10.7	13.8	20.2
June	5.1	7.0	13.2	24.1	18.3	38.4
July	10.2	17.3	46.8	88.6	57.0	106.0
Aug	11.7	11.7	24.7	25.1	36.4	36.7
Sept	10.6	14.7	18.0	19.6	28.6	32.7
Oct	14.2	24.7	7.2	16.1	23.4	33.4
Nov	16.2	22.5	4.5	10.6	20.7	27.1
Dec	4.8	6.1	2.0	5.4	6.8	9.8
Jan 80	8.3	12.2	3.1	10.2	11.4	16.9
Feb	6.6	11.7	1.0	4.5	7.6	11.7
March	5.5	7.6	1.0	2.0	6.5	9.0
April	8.0	9.4	3.1	7.3	11.1	16.7
May	8.1	10.1	7.4	12.0	15.5	21.6
June	4.9	5.5	9.4	13.9	14.3	19.0
July	2.1	3.0	5.1	8.2	7.2	11.2
Aug	0.8	1.5	2.3	3.5	3.2	4.6
Sept 80						

* All values in micrograms per cubic meter

The national and Montana State ambient air quality standards for particulate matter are:

<u>Pollutant</u>	<u>Primary^a</u>	<u>Secondary^a</u>
Particulate Matter		
Annual geometric mean	75	60
Maximum 24-hour concentration ^b	260	150

^a All measurements are expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

^b Not to be exceeded more than once a year.

Source: Environmental Protection Agency, "National Primary and Secondary Ambient Air Quality Standards," (Federal Register, 36 [84], April 30, 1971) p. 8187.

W. Winkelstein states in The Relationship of Air Pollution and Economic Status to Total Mortality and Selected Respiratory System Mortality in Man, Archeological Environmental Health, 14 p. 162 1967, that clean air contains 10 to 20 ug/m³ of TSP while 70 to 700 ug/m³ (annual geometric mean) has an effect on increased death rates for persons over 50 years of age.

The average values for the Moose City and Columbia Falls-NAAC sites are both low. The Moose City site falls well within the Winkelstein Definition of clean air. The air quality with respect to TSP, though quite good, is slightly reduced at the Columbia Falls-NAAC site. John A. Coefield states on page 5 of the Flathead River Basin Environmental Impact Study, Interim Annual Report, June 1981, "The data [from all sampling sites] clearly shows the influence of population density, industrial and agricultural activities on TSP concentrations. The lowest concentrations are at the Moose City, Columbia Falls-NAAC, and Big Fork sites while the highest levels are at the Columbia Falls-Anders, Kalispell, Polson, and Ronan sites."

Based on Coefield's findings, a higher TSP value at Columbia Falls-NAAC could be expected since it is closer to populated and industrialized areas. The TSP values within Columbia Falls are well above the national and State standards, and therefore the Environmental Protection Agency has designated the town of Columbia Falls a non-attainment area for TSP. This designation applies only to the town of Columbia Falls.

Measurements at Polebridge for particle sizes of 15 microns and less averaged 16 ug/m³ for 1979, and 9.6 mg/m³ from January through September 1980. The increase in particulates that appears in the summer months corresponds to increased use and dryer weather.

Based on the above information, it is apparent that the air quality in the North Fork Flathead River valley is high--indicative of relatively undeveloped mountain areas.

Noise

The portion of Forest Highway 61 being considered in this statement is entirely rural. No noise sensitive receptors are located along this section. Therefore, it falls within Category D for undeveloped lands as defined by the Federal Highway Administration's Federal-aid Highway Program Manual, Volume 7, Chapter 7, Section 3. No design noise level criteria have been developed for this category of lands.

No significant adverse impacts caused by an increase in noise volume will occur if this proposal is implemented.

Construction activities will cause some noise disturbance. However, the contract will require that all equipment used on the project be properly muffled.

Social and Economic Environment

Social -- The section of Forest Highway 61 proposed for improvement is located in a rural area adjacent to the North Fork Flathead River. There are no residences located along this section and only the southern 1 mile crosses private property. County Route 486 continues northward from Camas Junction 34 miles to the United States-Canadian border. It passes through the North Fork valley for this entire distance. Private land holdings increase significantly north of Camas Junction. There are approximately 18,400 acres of private land held by about 350 owners. Parcels range in size from about an acre to more than 400 acres. It is estimated that 60 families now live year round in the North Fork Flathead Valley and 140 reside there during the summer. (The above estimates of families living in the North Fork valley are based on the number of mail deliveries along the existing road. This information is taken from current, unpublished research performed by the U.S. Forest Service, Missoula, Montana.)

As late as the 1960's, much of the private land was held in relatively large parcels (40 to 200 acres) by a few owners. Most of these parcels were homesteads, settled in the late 1800's. During the 1970's, the public became more interested in the recreational opportunities in the North Fork valley causing a rise in land values and an increase in land subdivision. Also during the 1970's, Flathead County classified private land along the North Fork as suburban. This action made subdivision of large parcels more desirable.

Presently, electricity and general phone service do not extend up the North Fork Flathead Valley. There are no plans to extend either service up the North Fork valley in the near future.

The nearest community providing full services for people in the North Fork is Columbia Falls. Except for a small general store at Polebridge, all food and commercial goods must be purchased in Columbia Falls, Kalispell or other communities in the county. Columbia Falls is located about 36 miles south of Polebridge. The average driving distance to Columbia Falls for North Fork residents is 42 miles, 19 of which are paved. In addition to goods and supplies, services such as hospital, routine medical, dental, county services, and schools are located in Columbia Falls or Kalispell.

Transportation from the North Fork to the community centers is difficult. The only practical means of transportation is motor vehicle, even though emergency and special services can be provided by helicopter or small aircraft. The total length of County Route 486 from Columbia Falls to the Canadian border is about 57 miles. The route has been reconstructed and paved for 12 1/2 miles from Columbia Falls to Canyon Creek. Flathead County paved an additional 5 1/2-mile section beginning about 6 miles north of Camas Junction and extending to 1 mile south of Polebridge. An additional one-half mile was paved with the reconstruction of the bridge over Big Creek. Presently 19 of the 57 miles (33 percent) is surfaced with asphalt. The remaining 38 miles are gravel and dirt surfaced.

Flathead County is responsible for maintaining the existing FAS 486. At various times throughout the year, the surface becomes rough with many large potholes. This poor surface condition causes increased vehicle wear, discourages visitors from driving up the North Fork valley, and increases travel time between residences and community centers. Several citizens stated at public meetings and in correspondence with the Federal Highway Administration and the U.S. Forest Service that the poor surface condition of the gravel road was discouraging and caused increased wear on their vehicles.

Other people attending the public meetings wanted the road to remain rough because they believe that condition discourages public travel to, and development of the North Fork valley, and thus helps to preserve what they consider to be the semi-primitive nature of the valley as it exists today.

Flathead County is considered to be a natural scenic area with numerous recreation opportunities. Some of these include: Whitefish Lake, Flathead Lake and Hungry Horse Reservoir; Glacier National Park; Whitefish Ski Area; the wild and scenic designation of the Flathead River system; and large expanses of natural mountain and forest areas. Mostly because of these characteristics, Flathead County has for the last two decades been one of the highest growth counties in the State of Montana.

Population Figures

	Montana State	Flathead County	Kalispell	Columbia Falls	United States
1960	674,767	32,965	10,151	2,132	179,323,175
1970	694,409	39,460	10,526	2,652	203,211,926
1980	786,690	51,966	10,648	3,112	226,504,825

Growth Percentages

	Montana State	Flathead County	Kalispell	Columbia Falls	United States
1960-70	2.9%	19.7%	3.7%	24.4%	13.3%
1970-80	13.3%	31.7%	1.2%	17.3%	11.4%

A high growth rate is expected to continue through the 1980's. Of the 12,500 people who moved into Flathead County between 1970 and 1980 less than 10 percent settled in the urban areas of Kalispell, Columbia Falls, and Whitefish. More than 90 percent settled in rural areas. This settlement pattern is indicative of a desire for rural amenities over urban conveniences.

According to the 1970 census, the minority population of Flathead County was 1.2 percent. Sixty-seven percent of this minority are Native Americans. It is not expected that this proposal will have any significant effect on the minority population in Flathead County. There is no specific information available on the minority population in the North Fork Flathead valley, but it is unlikely that minorities populate the valley in greater percentage than exists countywide.

Enforcement of laws and regulations in the North Fork Flathead Valley is within the jurisdiction of five different agencies--Flathead County, the U.S. Forest Service, Glacier National Park, the Montana Department of Resources, and the Montana Department of Fish, Wildlife, and Parks. Law enforcement on private land is the responsibility of the County Sheriff's Department. The Forest Service enforces regulations on Forest land and the west half of the scenic and recreation components of the North Fork Flathead River. The National Park Service enforces laws and regulations in Glacier National park (this includes the east half of the scenic and recreation components). The Montana Department of Fish, Wildlife, and Parks is responsible for regulation of hunting and fishing in the North Fork. And, the Montana Department of Resources manages Coal Creek State Forest.

Economy -- The economy of Flathead County is based primarily on manufacturing, agriculture, and tourism. Of these, manufacturing is largest in terms of earnings (31 percent) and employment (22 percent). The forest products industry is the largest manufacturing industry accounting for 52 percent of the earnings and 55 percent of the employment. The primary metals industry accounts for 33 percent of the earnings and 23 percent of the employment in manufacturing.

Agriculture in Flathead County consists mostly of beef production. Much of the tillable land is used to produce feed for cattle. There are several feedlot operations in the county, but most producers are running cattle in a ranch operation, and selling calves in the fall.

Tourism is increasing in Flathead County. Visitors from all parts of the United States are drawn by nationally known attractions such as Glacier National Park, the Wild and Scenic designation of the Flathead River system, the Bob Marshall and Mission Mountains Wilderness areas, Hungry Horse Reservoir and Flathead Lake. Growth in tourism has encouraged development of recreational facilities by private enterprise, and is undoubtedly responsible for the increase in subdivision activity for vacation and retirement residences over the last two decades.

One of the results of the influx of people into Flathead County is a relatively high unemployment rate. Also, the seasonal nature of agriculture, the timber industry, and tourism is a contributing factor. The average annual unemployment rates range from 7 to 14 percent.

IV. ENVIRONMENTAL CONSEQUENCES

ENVIRONMENTAL IMPACTS

Land Use and Natural Resources

The U.S. Forest Service supports the proposed improvement of the North Fork Road (Alternate C or D) and has determined that such improvement is consistent with their existing and future plans, programs, policy directions, and regulations for forest management in the Glacier View District. The basis for this consistency is as outlined in the "Need for the Project" section of this document. Paved road improvement would be expected to increase Forest Service program and administrative costs for some of its program activities (such as recreational activities) which will probably increase if the road is paved. An improved gravel road will probably not cause these costs to increase at a rate exceeding that with the existing road.

Road improvement (Alternates B-E) is not expected to significantly affect natural resources (timber, grazing, minerals, water production) or use of these natural resources in the North Fork. Logging and oil and gas exploration are heavy industries which will probably proceed at planned levels regardless of road improvement. Paving of the road could increase the profitability of these activities but probably not enough to significantly increase logging or oil/gas activities. In the past, the periodic deterioration of the gravel road surface discouraged logging of one timber sale until road maintenance improved. Road improvement (Alternates B-E) would help avoid such a problem in the future.

The National Park Service is opposed to a paved road improvement. As stated by the Park Service, "the Park's Master Plan, Statement for Management, Resource Management Plan, and Fire Control and Management Plan all provide for managing the North Fork section of the Park as a low visitor use, wilderness-type experience. Therefore, improved accessibility, with the attendant effects on resources, must be viewed as incompatible with the Park's management philosophy and objectives." The Park Service supports Alternates D or E.

Following the issuance of the Draft EIS for this project by FHWA, the Superintendent of Glacier National Park urged that a larger, more comprehensive look at the whole North Fork situation be taken immediately through the formation of an entity that should consider the cumulative effects of road paving, oil and gas exploration, Canadian coal mining, and growth potential. Managers of Glacier Park, the Flathead National Forest, Coal Creek State Forest, MDFWP, and Flathead County have begun to meet periodically (May, August and November 1982) to exchange viewpoints and information on their respective management directions and programs. In addition, it is expected that the issues and impacts associated with the wide range of activities occurring in the North Fork can also be addressed in the future during the development and subsequent revisions of the Flathead River Basin Study, Flathead Forest Management Plan, and Glacier Park Master Plan.

The Montana Division of Forestry supports a paved road improvement (Alternate C) and has determined that such improvement is consistent with Department of State Lands plans, programs, goals, and policy directions. The Division of Forestry supports a paved improvement for much the same reasons as the U.S. Forest Service. The Division of Forestry states:

"From the very beginning of the proposed North Fork road project, the Northwest Area Division of Forestry, has been in favor of the paving, at least to Camas Creek. We also feel the reconstruction of the roadway to a 35 mile per hour system from Canyon Creek to Camas Creek is the best alternative. The continually reoccurring gravel surface maintenance, the associated air and water pollution, and the resulting extreme safety problems for users would be significantly improved by a paved roadway. The reconstruction of the system to 35 mph would also serve to better manage the wildlife disturbance problem and would improve visual qualities and recreational experiences far better than the existing road system. In general, the 35 mph paved system would lay lighter on the ground while better serving those who need the road for land management, recreation and as access to private property.

"We definitely feel that the proposed roadway improvement to a 35 mph paved surface is compatible, consistent and complementary with the goals of the Division of Forestry."

The Montana Department of Fish, Wildlife, and Parks and U.S. Fish and Wildlife Service support only an unpaved improvement of the road (Alternate D or E) and they favor spot improvements (Alternate E). The reason for their preference for a gravel road improvement lies primarily in their assessment of cumulative adverse impacts of a paved road on fish and wildlife resources including endangered/threatened species of the area.

The Flathead County Commission and a portion of the North Fork landowners support a paved improvement (Alternate C or B) of the North Fork Road. The basis for this support is addressed in the "Purpose and Need for the Project" and "Comments and Coordination" sections. However, a larger number of responding landowners do not support a paved improvement but favor only spot improvements (Alternate E), an improved gravel road (Alternate D), or improved maintenance of the existing road (Alternate A). These latter landowners desire to retain the remote character of North Fork and wish to discourage increasing numbers of residents, visitors, and developments. The County Planning Office is concerned that a paved road improvement could stimulate development of private lands in the North Fork which will require the County to provide additional services which it cannot presently afford (e.g., sheriff patrol, fire protection, garbage haulout, water supply, etc.) It is likely that a paved road improvement would continue or stimulate the existing development trends of private lands in the North Fork. However, the amount of increase in the rate of development (or the expected rate in the future without any road improvement) is extremely speculative.

The British Columbia Forest Service does not view the improvement of the North Fork Road to the Camas Junction (Alternates B, C, D, E) or the No Build Alternative as having any significant effect on their programs, goals, or policies in the Canadian Provincial Forest.

Geology/Soils/Topography/Seismicity

The entire project area has glacially-disturbed soils which may be unstable if vegetation is removed in steeper locations. The existing road, which characterizes "Alternative A - No build", has several steep raw cuts where glacial soils and decomposed bedrock periodically slough off into the small road ditch or onto the travel way itself. When the sloughed material builds up, the County maintenance forces clean out ditches or regrade the section often dumping waste material on opposite downhill sides of the road. This is the case at Canyon Point and Fool Hen Hill where sloughing material periodically covers the ditch and road. At Fool Hen Hill, the raw slope also extends down to the River due mainly to active drainage of the cut slope across the road and down to the river, and due to dumping of the sloughed material over the steep downhill side. Several other locations along the project have similar but not as severe problems with erosion, sloughing, and drainage. One advantage of the existing road or No-Build alternative (Alternate A) is that keeping the narrow gravel road avoids new cuts into some hillsides and avoids higher cuts into existing cut slopes. However, many existing cuts would remain raw without revegetation causing erosion and adding suspended solids and sediment to drainage runoff.

Alternative B entails a substantial widening of the road and supporting features (side slopes, ditch, backslopes) in addition to considerable curve flattening to attain a 50 mph design speed standard. In areas where periodic rock fall can be expected, a wider ditch would be provided as a catch area. Such features would require fairly extensive new cuts and fills and enlargement of old cuts and fills along the existing road--probably more than doubling the size of these old cuts and fills. Such cuts and fills would be seeded for revegetation but may not revegetate too well due to steepness, runoff, and surface microclimatic conditions. The large earthwork generated by such cuts and fills would also require extensive disposal sites near the project area for placement of excess soil and rock.

Alternate C remains closer to the curvature of the existing road and has a somewhat reduced road width with narrowed sideslopes, ditch, and backslopes. As such, Alternate C limits the enlargement of cuts and fills while improving the existing road. A positive feature of Alternate C is that the existing cuts and fills would be stabilized (revegetation would still be difficult but not so much so as Alternative B) while not enlarging them as much as Alternate B. Alternative C would also produce some excess rock and soil requiring placement in a disposal site. One large depression adjacent to the road north of Fool Hen Hill and extending about 600 feet into the forest could probably accommodate all of the excess rock and soil that is generated.

Alternate D would have cut and fill impacts similar to Alternative C since the improved road width and typical section would be roughly the same. Alternate D would require a continuous source of gravel for periodic restoration of the gravel surface.

Alternative E, involving spot improvements at hazardous locations (about 4.4 miles in length out of the 10-mile section), would have cut and fill impacts similar to Alternative C and D in these hazardous locations since the improved road width would be the same. The existing narrow width and hazards in these locations is usually due to encroachment on both roadsides by high, ravelling cuts or fills. Therefore, in terms of cuts and fills and disposal of rock/soil excess, Alternative E in the narrow and hazardous sections would have much the same impact as Alternates C or D. Alternative E would also require a continuous source of gravel for periodic restoration of the gravel surface.

With Alternative B, C, D, or E, a source of gravel (crushed rock) would be needed to supply aggregate for road base and for paving or gravel surfacing. This source(s) would probably be in an upland area of the National Forest as is the gravel source currently used for periodic regraveling the existing road (i.e., Alternative A). Use of a particular gravel source on the National Forest and rehabilitation of such a source may be allowed by permit from the U.S. Forest Service.

There would be no difference in seismic risk among any of the alternatives.

Water Resources/Water Quality

Compliance with the Montana State Water Quality Standards is the best test for ensuring that the project activities do not significantly degrade the water quality of the North Fork or its tributaries. These streams have been classified "B-1" by the Montana Department of Health and Environmental Sciences (MDHES). This classification specifies that existing water quality is to be maintained as suitable for growth and propagation of salmonid fishes (i.e., trout and salmon) and associated aquatic life/waterfowl/furbearers, for bathing, swimming, and other water-contact recreation, for domestic water supply, drinking, and culinary/food processing purposes, and for agricultural and industrial water supply. The associated criteria for these uses according to the State Standards are included below. Only those criteria that may be affected by the construction project are listed. (Typical existing ranges of these water quality parameters are given in the "Affected Environment" section of this document.)

Turbidity -- maximum allowable increase above naturally occurring turbidity is 5 NTUs; short-term construction activities causing unavoidable higher turbidity levels may be authorized (with or without limitations) by the MDHES with a Section 16.20.633(3)(a) Authorization Form.

dissolved oxygen -- may not be reduced below 7.0 mg/liter.

pH -- no change greater than 0.5 pH unit; natural pH above 7.0 must be maintained above 7.0; natural pH outside the range of 6.5 to 8.5 must be maintained with no change.

temperature -- a maximum 1° F. increase is allowed if natural range is 32° F. to 66° F; an increase up to 67° F. is allowed if natural range is 66° F. to 66.5° F.; a maximum 0.5° F. increase is allowed if natural range is 66.5° F. or greater.

general -- no increases are allowed above naturally occurring concentrations of sediment, settleable solids, oils, or floating solids or scums, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife.

The main potential adverse effect of road improvement (Alternatives B, C, D, E) on existing water quality would be temporary local increases in suspended sediment and turbidity caused by erosion of soils from exposed construction sites. However, Alternative A - No build, has a similar and permanent effect due to many raw cut/fill slopes which continually erode causing some increase of suspended sediment and turbidity of the North Fork or tributaries. In addition, the existing road (Alternative A) is gravel/dirt surfaced and continually adds a limited amount of sediment, turbidity, and oil derivatives (from dust control oils) to the runoff into the North Fork. The paving alternatives (B, C) would have the positive effect of permanently sealing the existing gravel/ dirt road surface. The non-paving alternatives (A, D, E) would maintain a gravel surface which would continue to add some sediment and turbidity to the runoff. However, Alternatives D and E would improve the revegetation of existing raw cut/fill slopes thereby reducing that source of pollution over the long-term.

In summary, all construction alternatives (B, C, D, E) could be expected to have temporary and limited adverse water quality impacts due to some unavoidable construction site runoff; but these alternates would also have the long term positive effect on water quality of revegetating some existing raw cut and fill slopes and, with Alternatives B or C, would seal the existing gravel/ dirt road surface. The U.S. Environmental Protection Agency and MDFWP have indicated that the limited amount of runoff and dust from an improved gravel road (Alternatives D or E) is not expected to significantly degrade the area's streams or fisheries.

In order to minimize erosion and resultant sediment/turbidity from construction sites, a project erosion/sediment control plan and revegetation plan would be developed in coordination with the U.S. Forest Service, MDFWP, and MDHES. These plans would specify temporary and permanent erosion control measures and revegetation techniques that will control erosion, keep suspended sediment within the drainage confines of the project, and revegetate any disturbed soil as soon as practicable. Following are some of the measures which will be included in these plans:

- The plans will address specific drainage problem areas along the project as well as address project-wide measures. The project engineer will continually monitor the success of the erosion/sediment control and revegetation plans. In addition to cleared or graded project areas, borrow/fill sites, gravel source sites, haul roads, and equipment staging areas will be protected from erosion with measures addressed in the project erosion control plan.
- The project engineer will coordinate with the U.S. Forest Service, Montana Department of Fish, Wildlife, and Parks (MDFWP), and the Flathead Conservation District in advance of each construction activity which is likely to affect the water quality of the North Fork or its tributaries so that representatives of these agencies can visit the construction site and observe the effectiveness of control measures and adherence to the State Water Quality Standards.
- The project engineer will limit the area of excavation, borrow, grading, and embankment operations in progress commensurate with the contractor's capability and progress in accomplishing finished grading, mulching, seeding, and other permanent and temporary erosion control measures according to the erosion/sediment control plan and schedule;
- Existing vegetation will be disturbed as little as possible and clearing will be limited to no farther than 5 feet beyond the edge of rounded cut slopes and 5 feet beyond the toe of fills (soil disturbance will not occur until after the soil has adequately drained in spring);
- Depending on slope conditions, cut/fill slopes may be rough-finished and/or serrated; earthen slopes will be topsoiled, if topsoil is available, mulched, and reseeded as soon as possible after grading;
- Retaining structures such as binwalls or gabions may be used to reduce extensive or steep cut/fill slopes (again depending on conditions of the slope);
- Adequate erosion/sediment control measures (e.g., mulches, fiber mats, hay bales, brush barriers, rock lining, riprap, catch basins, water deflectors, berms, dikes, cofferdams, temporary culverts, slope drains,

sodding, etc.) will be used as necessary in the erosion/sediment control plan and as directed by the project engineer to reduce runoff velocity and extract sediment;

- All temporary and permanent drainage structures/ditches will be installed (and revegetated if appropriate) and their inlets/outlets stabilized as soon as possible during the construction activities;
- Topsoil will be removed and replaced on the project to enhance revegetation; topsoil stockpiles and borrow/disposal sites (if any) will be continuously protected from erosion/leaching and will not be located in areas where flooding or washout could occur;
- No construction equipment will be permitted in any live stream without the specific permission of the project engineer; the project engineer will coordinate with the U.S. Forest Service, MDFWP, and the Flathead Conservation District before approving such in-stream activity.
- The contract will require the assignment of an individual whose responsibilities will include directing the implementation of effective erosion/sediment control measures to control construction site drainage (which may develop or change on an hourly basis); directing the construction, operation, and dismantling of temporary erosion control features; and being available to the project engineer to modify site drainage, implement erosion/sediment control measures, and implement storm and winter shutdown procedures as the project engineer directs.
- The North Fork or its tributaries will be monitored by the FHWA project engineer for increased turbidity caused by project construction. Turbidity will be measured upstream from the project area (as a control) and 500 feet downstream in the area of water with highest turbidity whenever a noticeable turbidity plume is being generated from the project. If such measurement (with an HF-DRT 15 turbidimeter) shows an increase of 5 NTU or more above normal, the project engineer will suspend construction operations and modify the erosion/sediment control plan to eliminate the cause of high turbidity. Unavoidable periods of higher than 5 NTU turbidity must be authorized by MDHES (see Section 16.20.633(3)(a) of the Montana Water Quality Standards).
- In order to protect existing water quality and flows, a review will be made during the project design stage in coordination with the U.S. Forest Service, the MDHES, MDFWP, and the Flathead Conservation District. This review will determine the best means to provide adequate roadway and slope drainage while preserving surface water and shallow ground-water levels and quality. These measures will be addressed in the final project plans and specifications.

Finally, for protection of water quality from construction point source and non-point source discharges, the contractor will comply with all Federal and State requirements controlling effluent discharges such as:

- No oil or oil derivatives will be discharged into streams; accidental oil/ grease spills will be controlled immediately by diking and use of hay bales to soak up oil, etc.; all petroleum storage facilities on the project must be diked to retain accidental spills; the project engineer, the U.S. Forest Service, and the MDHES must be notified in case of any accidental oil discharge into streams;
- Temporary sanitation facilities on the project must comply with all Federal and State standards;
- No toxic materials such as uncured concrete components or pesticides that will impair the stream plant and animal life will be discharged into streams.
- No debris or materials that will affect the natural taste, odor, or color of the water will be discharged into streams.

Many commenters on the Draft EIS expressed the opinion that the proposed paving of the North Fork Road (Alternative C was the preferred alternative identified in the DEIS) would encourage a wide range of activities already occurring in the North Fork drainage area. Such activities include increasing recreational use, subdivision and development of private lands, other road improvements, oil and gas exploration, logging, and open-pit coal mining north of the border. An increase in such activities would be expected to increase non-point source pollutant loading into the North Fork and its tributaries, particularly suspended solids, sediment, turbidity, and fecal coliform bacteria. Traffic projections by FHWA do not support the contention that paving the road (Alternative C) would significantly stimulate the above activities. However, the Forest Highway Program agencies now recommend Alternative D (gravel surface) as the preferred alternative; such improvement should have no more stimulating effect on these activities in the North Fork than the existing gravel road.

Floodplain

Executive Order 11988 "Floodplain Management" and implementing regulations require Federal agencies to avoid longitudinal encroachments and other significant encroachment on the 100-year floodplains of streams by their proposed projects where practicable; also, adverse impacts on floodplains including increasing flood risk, loss of natural and beneficial floodplain values, and support of incompatible floodplain development are to be avoided, where practicable, or minimized. Executive Order 11990 "Protection of Wetlands" and implementing regulations require that Federal agencies avoid

adverse impacts, encroachment on, or modification of wetlands; if no practicable alternative is available to such impacts, the proposed project is to include all practicable measures to minimize such impacts.

In general, the floodplain of the North Fork is a very productive and diverse wildlife habitat which, in specific locations, provides important seasonal and year-round support for many different bird populations, deer, elk, moose, black bear, grizzly bear, gray wolf, and bald eagle populations (the latter three are threatened or endangered species). The 100-year floodplain provides conveyance for recurrent floodwaters as well as providing slackwater areas valuable for reduction of the stream's erosion potential and storage (retention) of floodwaters. In addition, the floodplain contributes fishery support (foraging and spawning areas) and acts as a nutrient sink in which mineral and organic substances are removed or stored by physical deposition and biomass accumulation by organisms of the floodplain ecosystem. Given its characteristic vegetation, recurrent flooding, and high subsurface water level, portions of the North Fork floodplain may be classified* as a riverine wetland as follows:

system: riverine
 subsystem: upper perennial
 class: unconsolidated shore
 subclass: sand/gravel
 water regime: temporarily flooded (but usually well-drained and dry)
 water chemistry: fresh
 soil: mineral
 vegetation: grass/shrub/conifer

* according to Classification of Wetlands and Deepwater Habitats of the United States, U.S. Fish and Wildlife Service, 1979.

The improvement of the North Fork Road (Alternates B-E) would entail widening the road and minor realignment at curves although the centerline of the improved road would remain close to the existing centerline to maintain a 35 mph design speed (50 mph for Alternate B). Alternate E would improve only 4.4 miles of the road in several hazardous segments. In some areas along Great Northern Flats (see alignment map and floodplain map), raising the road elevation, road widening on the floodplain side to avoid a larger side hill cut, and roadway geometric improvement would result in encroachment on the uppermost margin of the 100-year floodplain and in some locations the ordinary high water level as summarized below (all encroachments are approximate and subject to design change). Such encroachments may require approval of the Flathead Conservation District in compliance with Montana Streambed and Land Conservation Act; encroachments on the the ordinary high water level will probably require Section 404 permit(s) from the U.S. Army Corps of Engineers in compliance with the Federal Water Pollution Control Act:

Project Station (Great Northern Flats area)			Approx. Encroachment Width into 100-yr. Floodplain	Approx. Encroachment area
781	- 796	(1,500 feet)	10-40 feet	.7 acres
802	- 810	(800 feet)	10-33 feet	.4 acres
822.5	- 825	(250 feet)	5-18 feet	.1 acres
827	- 835.5	(850 feet)	5-20 feet	.3 acres
838	- 845	(700 feet)	10-40 feet	.5 acres

Project Station (Great Northern Flats area)			Approx. Encroachment Width into the Ordinary High Water Level	Approx. Encroachment Fill Volume
785	- 794	(900 feet)	24 feet	869 cu. yds.
804	- 809	(500 feet)	10 feet	401 cu. yds.
827	- 829	(200 feet)	14 feet	130 cu. yds.
839	- 841	(200 feet)	32 feet	533 cu. yds.

Alternates B, C, and D would encroach on each in these locations for a total 100-year floodplain encroachment of about 2 acres and a total ordinary high water encroachment of about 2000 cu. yds. Alternate E (spot improvements) encroaches only from Stations 781-838 for a 100-year floodplain encroachment of about 1.5 acres and an ordinary high water encroachment of about 1400 cu. yds.

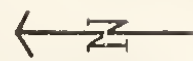
The above encroachments would occur even though the extent of fill into the floodplain will be reduced by steepening the slope (2:1 or steeper versus normal 3:1) and riprapping the lower portion of the slope to reduce erosion and prevent washout during flooding. In some locations (Station 797 to 799 or about 200 feet), other potential encroachment will be reduced or eliminated by the use of retaining walls to contain the fill. Possible additional alternatives to avoid encroachment into the floodplain include more extensive use of walls to retain fill and/or widening on the upland side only. Widening into the hillside would produce larger cuts that would be highly visible and difficult to revegetate. More extensive study of the use of walls to reduce encroachment will be undertaken as the floodplain analysis continues in the project design stage.

A paved improvement of the road (Alternative B or C) could cause an increase in the current rate of subdivision and development of 18,400 acres of private land near Polebridge; over 1,100 acres of this private land is located within the 100-year floodplain of the river. This influence on private land within the floodplain may not be compatible with the policy of the floodplain management Executive Order (and implementing regulations) that proposed actions should avoid encouraging, allowing, serving, or facilitating additional floodplain development with its attendant increased flood risk and loss of natural beneficial floodplain values. Adoption of Alternative D as the preferred and recommended alternative avoids the potential for stimulating development of private lands in the North Fork.

FLOOD PLAIN MAP

North Fork Road

(SCALE: 1" = 250')



--- EXISTING 100-YEAR FLOODPLAIN
— PROJECT ENCROACHMENT (EDGE OF NEW FILL)





No significant increased flood risk is expected from this proposed project. Since the Forest Service manages and controls almost all of the land adjacent to the project, including the floodplain, the project will not encourage floodplain development along the project section. A small amount of private land abuts the project from Canyon Creek north about 1 mile. Some of the floodplain is also privately owned in this area but is very limited in extent due to the steepness of terrain in the area; as a result, no significant encouragement of incompatible floodplain development is expected in this restricted area.

The project encroachment on the margin of the river near Great Northern Flats would cause a maximum increase of 2.5 inches in the existing flood levels (in the Great Northern Flats area). This minor increase in flood height would not constitute a significant increase in flood risk to property or personal safety.

Floodplain/Wetland Determination-- Only Practicable Alternative Finding

In summary, there will be encroachments on the 100-year floodplain and ordinary high water level of the North Fork Flathead River in several locations near Great Northern Flats where the existing road borders the river. These embankment areas alongside the existing road are generally dry and sparsely vegetated and exhibit few characteristic wetland values or habitat values which make other floodplain locations important to the North Fork ecology. In addition, the construction and use of the existing road has significantly reduced any previously existing hydraulic, hydrologic, and environmental values. The Forest Highway Program agencies (and the other agencies with which project development was coordinated) believe it is necessary to remain on or near the existing road alignment to minimize new environmental impacts that would occur if a new alignment were chosen. Since the existing road is in contact with the river floodplain at Great Northern Flats, some additional encroachment is unavoidable if the road is to be improved. The Forest Highway Program agencies have reduced the extent of encroachment to that which is considered reasonable and prudent. Measures used to reduce encroachments and minimize impacts include:

- widening the existing road on the upland side away from the river whenever feasible, given engineering constraints;
- steepening the fill on the floodplain side where encroachment occurs to 2:1 or steeper (instead of the normal 3:1 and flatter) and placement of riprap to protect the embankment from possible washout;
- use of retaining walls in certain locations to avoid encroachments or reduce the extent of encroachments (Station 797-799); additional use of walls will be analyzed further during the project design stage.

Given the need to improve the road on or near the existing road alignment and given the above measures to reduce encroachment and impacts on the floodplain, the Forest Highway Program agencies have determined that there is no practicable alternative to the proposed construction that would avoid the encroachments outlined above; and, that all practicable measures have been and will be included in the proposed project (Alternative D) to minimize adverse impacts due to the encroachments.

Vegetation

The types of vegetation along the existing North Fork Road in the project area were described as "glacial terrace vegetation" earlier in this document. This includes dense seral coniferous forest (Douglas fir, western larch, aspen, spruce, lodgepole pine) with a diverse understory of shrubs and forbs. In the Great Northern Flats area (see Area Map) where the road is adjacent to the North Fork floodplain, the vegetation is a mix of these forest species and typical floodplain species (cottonwood, willow, alder, spruce, dogwood, big sagebrush, chokecherry, grasses, sedges, horsetail, etc.).

All of the above vegetation is common in this region with one exception. In the Big Creek to Camas ungulate winter range, old growth larch and fir provide natural cavities for cavity-nesting birds such as the rare pileated woodpecker. In the Big Creek to Camas winter range, precautions will be taken to reduce encroachment on the range and on these old growth trees which often abut the existing road. With Alternate C, road width would be reduced by utilizing a "curb and gutter" section which reduces the sideslope, ditch, backslope widths in the winter range area (see project typical sections). Alternates D and E with gravel surface do not allow the use of curb and gutter section in the winter range area. Therefore Alternates D and E will use more of the winter range. Alternate C would utilize about 11 acres of the winter range while Alternates D or E would utilize about 12.5 acres. Particularly valuable cavity trees will be marked by U.S. Forest Service biologists and protected during construction by special manipulation of project construction limits wherever possible.

In project areas adjacent to the North Fork floodplain, special design measures will be utilized to reduce or eliminate encroachment on the floodplain as described in the "Floodplain" section. All areas disturbed by construction (Alternates B, C, D, E) would be revegetated according to a revegetation plan developed in coordination with the U.S. Forest Service and MDFWP. All disturbed soil areas would be topsoiled and reseeded; natural forest succession would gradually recur beyond the road ditches.

The total areas of currently disturbed (existing road - Alternate A) and proposed disturbed (Alternates B, C, D, E) areas along the project are as follows:

	Road-disturbed area *	Road Right-of-Way **
Alternate A	48 acres	121 acres
Alternate B	125	204
Alternate C	122	171
Alternate D	123.5	171
Alternate E	85.5	142

* Road disturbed area includes the existing road and ditches for Alternate A; acreages for Alternates B, C, D, E include existing road plus additional area likely to be disturbed by construction on either or both sides of the existing road. Such construction disturbance would remove or change existing vegetation.

** Existing road right-of-way (i.e., Alternate A - No Build) is about 100 feet wide. It is currently federally-owned and managed by the U.S. Forest Service but would be transferred to Flathead County when the road is improved. Proposed minimum right-of-way for all construction alternates is 120 feet (except 160 feet for Alternate B); maximum proposed right-of-way in certain cut/fill areas could extend to 260 feet.

Fisheries

The MDFWP is very concerned that the existing trophy sport fishery for bull trout and the excellent west slope cutthroat trout fishery in the North Fork could be significantly impacted by a paved improvement of the North Fork Road (Alternates B or C). Fishing pressure on both species has been steadily increasing over the past decade and the various land developments discussed in the "Land Use/Natural Resources" section have the potential to cause significant adverse impacts to the water quality and fisheries of the North Fork. The MDFWP states that all of the land developments could cumulatively add levels of pollutants (turbidity, sediments, dissolved ions, acids, sewage, litter) which could stress this prime fishery habitat. MDFWP states that, while a paved road improvement would reduce sediment runoff from the road itself, paving would add to the stress on the habitat by adding runoff pollutants caused by increased development and by increasing fishing pressure caused by increased access and attraction of more fishermen and tourists. Such impacts could lead to the change of the bull trout trophy fishery to one of smaller fish caught less often. To counter this if a paved road improvement proceeds, the MDFWP envisions the need to increase fishing regulations and enforcement in the North Fork. However, they believe that such measures will only temporarily forestall the gradual decline of the fisheries due to continuing land use development and continuing access improvement.

Many land use activities and developments in the North Fork are already ongoing (i.e., with Alternate A - No Build) and have, in fact, contributed to the desire for some road improvement. The possible effect of increased

fishing pressure due to a paved road improvement (Alternatives B, C) could possibly be offset with increased fishing regulations and enforcement by MDFWP. However, it is recognized that this would place an additional financial and manpower burden on MDFWP. Increased fishing pressure and ongoing development may soon dictate such measures with or without road improvement. The impact of land use changes on water quality can also be reduced under local, state, federal, or international laws or regulations. However, it should be pointed out that despite a mechanism to protect water quality, all construction activities and most land use development activities usually cause varying levels of avoidable and unavoidable water quality degradation despite best efforts to reduce or mitigate these effects. With the number of such activities expected in the North Fork, the total of even low level cumulative effects may degrade the water quality and fisheries of the North Fork in the future. With adoption of Alternate D as the preferred and recommended alternative, these concerns of potential adverse effects of road paving on the fisheries of the North Fork should be eliminated.

With regard to direct project impacts, only minor drainages would be crossed by the proposed project. Any drainage with a fishery will be crossed on a culvert that allows fish passage. In addition, direct project impacts on existing high water quality will be minimized, as discussed in the "Water Resources/Water Quality" section, in order to meet Montana State Water Quality Standards. In summary, the direct water quality and fisheries impacts of project construction (Alternate D) can be reduced to an acceptable, non-significant level by utilizing effective erosion/sediment control and revegetation measures and properly designed culverts across minor drainages.

The MDFWP supports Alternate A--No build or a more modest road improvement such as Alternate D or E. They do not believe that the dust and sediment produced by the existing gravel/dirt road or an improved gravel road causes significant degradation of existing water quality or significant adverse impact to the fisheries. MDFWP opposes a paved road improvement because of potential adverse impacts to the high quality fisheries of the North Fork.

Wildlife

The proposed improvement of the North Fork Road will have direct and indirect effects on the area's wildlife. The direct impacts of all construction alternatives (B, C, D, E) are as follows:

- The project would convert some of the existing roadside vegetated habitat to road use as described in the "Vegetation" section. This habitat is generally occupied by small mammals and birds; in the Big Creek to Camas winter range, the existing roadside supports grazing ungulates, primarily in winter, as well as cavity-nesting birds and grizzlies in spring. With Alternatives B or C, about 11 acres of roadside through the winter range would be converted to road use (the

total area of the existing winter range is about 1,200 acres); with Alternatives D or E, about 12.5 acres would be converted to road use. This represents about 1% of the range and would result in a reduction in its wildlife carrying capacity of about 1%. This reduction in winter range capacity is not expected to significantly reduce the size of ungulate populations using the range. If necessary to offset the loss of winter range, other areas of the range can be intensively managed to increase ungulate forage/cover.

- A wider cleared width for an improved road (Alternates C, D, or E) would increase wildlife visibility during the day thereby reducing road kill potential; conversely, at night (from dusk to dawn), when many animals are active, reduced cover for crossing wildlife may cause animals to bolt when startled by vehicles thus increasing road kill potential. The net effect of the wider cleared corridor will probably be somewhat less road kills of wildlife in the winter range. High visibility (less cover) of wildlife also facilitates illegal shooting and harassment. The relatively narrow cleared corridor with the proposed improved road (Alternate D) is not expected to significantly change the existing wildlife crossing situation or create a barrier or interference to crossing wildlife. A paved road improvement (Alternate B or C) could increase road kills due to higher vehicle speeds; a gravel improvement (Alternates D or E) is not expected to significantly increase average vehicle speed.
- Temporary construction disturbance to wildlife would include construction vehicle noise, operations noise such as blasting, and general work site and equipment staging area disturbance.

These direct adverse impacts to wildlife have been or will be reduced to acceptable levels by the following measures:

- The width of the project typical section has been reduced along the entire project length and the improved road centerline remains close to the existing road centerline despite the curves associated with the existing road. Retaining walls have been used in certain locations to reduce the width of road embankment widening; additional use of retaining walls will be studied during the project design stage.
- The clearing width for the project will be reduced to the minimum required for construction of the reduced typical section with stabilized backslopes; construction limits will be locally manipulated to retain as much existing vegetation as possible; a landscaping/erosion control advisory team will be utilized to provide recommendations for project revegetation and erosion control.
- Advisory speed signs will be placed at the numerous 35 mph curves between Big Creek and Camas Junction.

- The County will keep winter snow removal and maintenance at current levels and will not salt the road for ice removal except in steep areas where dangerous icing conditions occur. A project revegetation plan will be developed in coordination with the U.S. Forest Service and MDFWP to avoid wildlife-attracting revegetation.
- Wildlife crossing warning signs and other mitigative measures (such as side casting light reflectors) will be studied in coordination with the MDFWP and included in the project if found to be effective and desirable in reducing potential vehicle-wildlife conflicts.
- Project construction personnel will be controlled and activities will be planned and scheduled in coordination with the U.S. Forest Service and MDFWP to avoid unnecessary disturbance or harassment of wildlife.

With regard to indirect effects of project construction, the MDFWP and USFWS believe that a paved road improvement (Alternatives B or C) would increase average vehicle speed on the North Fork Road resulting in increased road kills of ungulates and other wildlife, particularly in the winter range area. These agencies are also concerned that paved road improvement will increase access, use, and development in the North Fork Valley causing loss of wildlife habitat values, interference with wildlife need or preference for isolation from human activities, increase hunting pressure and poaching, and lead to more regulations and enforcement by MDFWP. (Increased land use development is also seen as making effective enforcement more difficult.) The MDFWP and USFWS favor improved maintenance of the existing road or a modest improvement (Alternatives D or E). They do not feel that dust associated with the existing road or an improved gravel road has a significant adverse effect on wildlife since the area currently supports healthy vegetation and wildlife populations. The Forest Highway Program agencies took these concerns into account in adopting Alternate D as the preferred and recommended alternative for the project.

Threatened and Endangered Species

The possible effects of the proposed road improvement on the grizzly, wolf, bald eagle, and peregrine falcon populations of the North Fork were analyzed in a "Biological Assessment" for Alternative B issued by FHWA in April 1980. After reviewing the assessment and North Fork land and road management plans, and consulting with various other species authorities, the U.S. Fish and Wildlife Service (USFWS) issued a "Biological Opinion" on Alternate B's probable effects as required by the Federal Endangered Species Act. The USFWS considered the direct and indirect effects of the project as well as other forces or developments occurring in the North Fork including logging, increasing subdivision and development of private lands, increasing recreational use especially in the river corridor, prospective oil, gas, and coal development, and the intent and actions of Flathead County to continue paving the North Fork Road to Polebridge.

The USFWS biological opinion determined that Alternate B coupled with county road improvements under Cooperative Agreement No. 17 would be likely to jeopardize the continued existence of the grizzly bear and gray wolf, but would not be likely to jeopardize the bald eagle or peregrine falcon. According to the Endangered Species Act, the USFWS suggested what they consider to be a reasonable and prudent alternative for the proposed project which would avoid further jeopardy to the species. This suggested alternative consisted of a minimal improvement of design features of the existing road with a final gravel surface, essentially the alternative described as Alternative D in this document. Since the Forest Highway Program agencies are not allowed to proceed with any proposed project which may further jeopardize a threatened or endangered species, the Forest Highway Program agencies decided to continue consultation with the USFWS and analyze a broader range of alternatives which could have varying levels of impact (and mitigation) on the species as well as provide varying levels of transportation service improvement.

In January 1982, the Federal Highway Administration and the other Forest Highway Program agencies issued a Draft Environmental Impact Statement which recommended Alternative C - a 35 mph paved improvement. After reviewing the Draft EIS and again consulting with various species authorities, the U.S. Fish and Wildlife Service (USFWS) issued a second biological opinion which considered the effects of Alternative C along with the cumulative impacts from County road improvements north of Camas Junction, the North End Salvage timber sale near the Canadian border, and the Cabin Creek coal mine proposal north of the border in the British Columbia portion of the drainage. The USFWS found that Alternative C also would be likely to jeopardize the continued existence of the grizzly and wolf populations in the North Fork (this second biological opinion is included in the appendix of this document). The USFWS also found that Alternatives D and E were reasonable and prudent alternatives which were not likely to jeopardize the grizzly or wolf. Based primarily on this biological opinion, and secondarily on the concerns of Glacier National Park, the Montana Department of Fish, Wildlife, and Parks, and input from other agencies and the public, the Forest Highway Program agencies now recommend Alternative D as the preferred alternative for this project.

The remaining discussion in this section is concerned primarily with the impacts of the various alternatives on the grizzly and wolf populations of the North Fork. The bald eagle would be affected by several of the same indirect project impacts affecting the grizzly and wolf. However, due to the predominantly migratory use of the North Fork by eagles, the timing of migration before and after most recreational use in the valley, the inherent mobility of the eagles during migration, and the existing condition of the bald eagle population, the proposed project is not likely to significantly affect the bald eagle. Measures incorporated into the preferred alternative (Alternative D) to benefit grizzly and wolf management will also benefit the bald eagle population.

The potential direct effects of the road reconstruction are as follows:

- with all build alternatives there would be an increase in interference or harassment of grizzlies (because of increased bear visibility and increased vehicle traffic) while crossing the North Fork Road as the bears move between Glacier Park, the North Fork floodplain, and the Whitefish Range (such as increased accidental and intentional road kills of grizzlies including sport shooting from vehicles); with Alternatives D or E, this impact would not be significantly different from the level of impact of the existing road.
- with Alternatives B or C, encroachment on about 11 acres of valuable grizzly support habitat along the Big Creek to Camas ungulate winter range (grizzly spring range); with Alternatives D or E, encroachment would be about 12.5 acres. (These encroachment areas are estimated until more detail is available in the project design stage.)
- with Alternatives B, C, D or E, disturbance of bear feeding and movement during project construction due to construction personnel, operations, equipment and possible related increase in bear-human confrontations near work sites.

(No significant direct effects on gray wolves, bald eagles or peregrine falcons are anticipated from this project.)

These direct adverse effects have been or will be reduced with the following mitigation measures; the level of direct impact to grizzlies after applying these mitigations would be significant with Alternatives B or C but minimal with Alternatives D or E:

- The project typical section and clearing widths have been reduced throughout the project. In addition, the proposed project retains a relatively low design speed (35 mph) through the winter range by staying close to the existing road centerline and retaining most existing curves which limit vehicle speed. A paved improvement would probably increase average vehicle speed significantly above that with the existing road; Alternatives D or E are not expected to significantly increase average vehicle speed.
- If determined to be desirable for grizzly management in coordination with the U.S. Forest Service, USFWS, and MDFWP, no stopping/no parking signs may be posted along the road in areas where grizzlies are known to cross and where they would be highly visible thus attracting harassment. Public information signs may also be posted to advise visitors of the legally protected status of grizzlies and to important facets of grizzly management and needs.

- Disturbed soil areas will be revegetated with plants that will not attract bears as a food source in the right-of-way; in the winter range, disturbed backslope areas will be revegetated with plants that will provide cover for crossing grizzlies. The revegetation plan would be developed in coordination with the U. S. Forest Service, MDFWP, and USFWS. The MDFWP or County will remove any carcasses from the right-of-way so that grizzlies would not be attracted to this food source.
- Only essential construction personnel will be allowed to camp overnight on the project right-of-way and staging areas to perform duties such as vehicle maintenance, night watch security, etc.; these personnel will utilize self-contained trailers and will report any grizzly sightings to the U.S. Forest Service. The project engineer will ensure that project personnel do not harass or harm any wildlife in the project area.
- Strict project construction controls on personnel/operations/ equipment will be implemented to minimize grizzly disturbance, harassment, and confrontations. Project activities and Flathead National Forest activities will be timed to minimize any cumulative adverse effect on grizzlies. Construction controls and timing will be developed in coordination with the U.S. Forest Service, MDFWP, and USFWS.

As stated in the USFWS biological opinion, (included in the appendix) the focus of greatest concern is the potential indirect effects of a paved road improvement on grizzly and wolf populations and habitat as well as other important wildlife/habitat of the North Fork. The USFWS, MDFWP, and National Park Service believe that an improved paved road would significantly increase access and encourage various human activities already occurring in the remote North Fork (north of Camas) which could have a severe cumulative effect on the grizzly, wolf, and other wildlife in the future. These agencies state that the primary effect of all of these activities would be to bring more people into essential grizzly habitat (and residual wolf habitat) thus reducing or destroying habitat values for these species and increasing bear-human and wolf-human encounters or confrontations with resultant damage, injuries, or deaths of people, grizzlies, or wolves. Grizzlies and wolves (and bald eagles) are thought to have physiological and/or behavioral needs for isolation from man's activities. A paved road is seen as improving access into the North Fork in spring when the grizzlies need and use the river corridor most and are under more nutritional stress.

These agencies indicate that probably the least controllable indirect effect on grizzly (and wolf) populations and habitat is the potential for road improvement to stimulate development of private land in the North Fork to more intensive residential and commercial use. Current County land classification allows such uses and more restrictive zoning is not anticipated nor is much activity expected in the U.S. Forest Service's Wild and Scenic River easement program. A significant amount of important grizzly habitat is

located on or near private lands. The rate of development depends on local economic condition and credit availability as well as on potential owner desires regarding ease of access (i.e., degree of road improvement) and availability of services. Subdivision and development of private land has increased in the last decade and can be expected to remain at least at this level. In a worst case scenario without effective controls, and with or without road improvement, it is possible that all of these private lands could be subdivided and developed for residential and commercial use in the future resulting in significant loss of habitat values. Alternatives D and E are not expected to significantly change the development potential of private lands in the North Fork.

Numerous comments have been received concerning the cumulative effects of many activities in or near the North Fork drainage on resources of the North Fork, particularly endangered or threatened species. Such activities and their cumulative effects are discussed below:

1. Road improvements in the North Fork area. Flathead County has improved (paved with cold mix asphalt) about 5 1/2 miles of the North Fork Road between Camas Junction and Polebridge. The county has expressed an interest in paving the remainder of the road to Polebridge but this is not expected to occur in the foreseeable future due to County financial constraints. The Montana Department of Highways and FHWA intend to improve U.S. 2 between Hungry Horse and West Glacier and from LaSalle Road through Columbia Falls. These projects along with the proposed Canyon Creek to Camas improvement are parts of a progressive improvement in access around Glacier Park and up into the North Fork which may be detrimental to the area ecology/resources, particularly endangered/threatened species. Many commenters on the Draft EIS believe that improved access will encourage more human use causing more disturbances, behavioral changes, and stress to fish and wildlife populations as well as degradation of important habitat. The Flathead County improvement (5 1/2 miles) was not subject to endangered species consultations but it was considered in the consultation for the proposed Canyon Creek to Camas project. The U.S. 2 projects were subject to endangered species consultation and found not to jeopardize any endangered/threatened species. The cumulative effects of these improvements have been considered by the Forest Highway Program agencies and the U.S. Fish and Wildlife Service in their analyses and decisions.
2. Recreation in the North Fork area. Recreational use in the North Fork has been increasing over the past decade due to its proximity to and the attractiveness of Glacier National Park, the designation of the River as a component of the National Wild and Scenic River System, the generally high quality scenery, fish, wildlife, water, and wilderness resources of the area, as well as increasing population of nearby cities and counties.

Increasing numbers of people using the North Fork for recreation will cause a gradual increase in disturbance to area fish and wildlife and degradation of habitat. However, both the U.S. Forest Service and National Park Service are responsible for managing recreational activities/ use in their jurisdictions to protect the resource values of the North Fork. Forest and Park programs are subject to endangered species consultation to avoid jeopardizing endangered/threatened species. The potential for increased recreational use with a paved road improvement versus a gravel improvement has been considered in the appraisal of cumulative effects.

3. Open-pit coal mining in British Columbia and potential oil/gas development in the North Fork area. These mining activities have the potential to disturb substantial amounts of wildlife habitat by land surface disturbance and by bringing large numbers of workers/residents into the North Fork and surrounding area. Potential effects of additional human use and occupation in the North Fork have been noted above. Future oil and gas development in the U.S. portion of the North Fork is very speculative but would be largely under the control of the U.S. Forest Service in the Glacier View District where exploration is occurring. Future oil/gas development will be subject to endangered species consultation which takes into account the cumulative effects of other activities. The Cabin Creek coal mine and potential oil/gas development in British Columbia are not subject to endangered species consultation but are considered in such consultations for U.S. activities. The USFWS and Forest Highway Program agencies have considered the potential cumulative effects of speculative oil/gas development and the Cabin Creek mine in the analysis and development of the Canyon Creek to Camas project.
4. Logging in the North Fork. Logging has been an ongoing activity in both the Montana and British Columbia portions of the North Fork drainage for many years. Beetle infestations in the late 1970's killed many trees which caused the B.C. Forest Service to clearcut large expanses of land; less logging and clearcutting has occurred on the U.S. side. Substantial volumes of dead timber is still being removed from Canada, some down the North Fork Road to mills in Columbia Falls. Logging can have both positive and negative effects on wildlife but is generally detrimental to fisheries and water quality. The U.S. Forest Service (Glacier View District) evaluates the effects of its logging program through an ongoing environmental evaluation process. The U.S. Fish and Wildlife Service also reviews the District's logging activities during endangered species consultations which also considers the cumulative effects of Canadian logging. The cumulative effects of past and current logging were considered during the analysis and development of the Canyon Creek to Camas Road improvement proposal.

5. Extension of electricity supply into the North Fork. The Glacier View District will retain its present generator system to supply electrical needs at the Big Creek Work Station. The majority of residents of the sparsely settled North Fork area apparently desire to keep the area remote and undeveloped. Extension of electrical supply is not expected in the foreseeable future.

Scenic/Recreational Resources

(NOTE: The proposed project's relationship to the "Recreational River" corridor of the Wild and Scenic Rivers System is addressed in the "Section 4(f) Evaluation" of this document.)

The U.S. Forest Service has evaluated the scenic resources along the existing North Fork Road according to the Forest Service Visual Management System. They determined that the entire project area has the highest sensitivity level (level of people's concern for the visual resources) and highest level of landscape variety or diversity (Class A or "distinctive landscape" except in continuous areas of dense coniferous forest away from the river where the landscape is Class B or "common"). Based on this analysis, the Forest Service has assigned a visual quality objective of "Retention" for these visual resources. This means that alterations caused by man's activities (in this case, road improvement) are not to be visually evident and may only repeat forms, lines, colors, and textures which are already frequently found in the existing landscape. The Forest Service has recommended that the proposed project cause as little visual disturbance as possible and that the existing road alignment be used wherever possible.

The probable effects of road improvement on visual resources are as follows:

- Road widening (Alternates B, C, D, E) will expand the scars caused by construction of the existing road in the early 1950's. Some of these existing cuts/fills are still raw and sloughing. In general, road improvement (Alternate C, D or E) would result in one and one-half to two times larger cuts and fills than currently exist; usually either the uphill cut or downhill fill would be so expanded, but not both. The largest cut/fills would be in existing high cut/fill areas such as Fool Hen Hill and Canyon Point; in three or four such areas, new cuts would be as much as 160 feet high, 400-700 feet long, on a 1 1/2:1 (horizontal: vertical) slope, and 75-300 feet from the centerline of the existing road into the hillside. Most cuts and fills, however, would be less than 50 feet high. (Alternate B would entail greater increase in the size of cut/fill slopes over that of Alternates C, D, or E.) In a portion of Great Northern Flats, the grade (elevation) of the road would be raised approximately 2 to 12 feet to ensure that the improved road is not subject to washout or an over-topping flood. An advantage to reconstructing the existing road is that existing raw slopes (i.e., Alternate A) would be better revegetated.

- An improved road (Alternate B, C, D, or E) will be more obvious to road users and road viewers (for example, from the river and from Glacier Park) as will larger shoulders, ditches, and backslopes. Paving (Alternate B or C) would provide the benefit of sealing the existing gravel road and eliminating considerable fugitive dust from the road in summer which detracts from the visual quality; Alternates D, E, and A would retain the gravel surface. The most visible landscape alteration would be the change in the character of the roadside from the existing one of immediate contact with dense coniferous forest (Alternate A) to a roadside which has more open area between the road shoulder and the far edge of the new cut/fill slope (Alternate B, C, D, E).
- A wider improved road and roadside will also provide beneficial visual effect for road users. The existing road (Alternate A) is narrow and sight distance is often limited due to the vegetation immediately adjacent to the road and existing road curvature. These conditions and the washboard or potholed surface of the road detract from the motorists' ability to enjoy the scenery along the road. This is particularly true for new visitors to the area during the dusty summer season. Road improvement (Alternates B, C, D, E) will ease the apprehension of motorists and allow them to view a wider angle of vision and background scenery more often.

Precautions will be included in the project design to minimize the adverse visual impacts of road improvement:

- A landscape/erosion-sediment control advisory team will be utilized during the project design and construction stages to review the entire project, give recommendations for general revegetation, landscaping, and erosion-sediment control measures, and give detailed design recommendations in particularly scenic or visible areas and where erosion-sedimentation problems are expected to be greater (see also "Vegetation" section). This team will be made up of specialists from the U.S. Forest Service, Montana Department of Highways, MDFWP, and FHWA.
- The heights and lengths of new cut/fill slopes will be minimized as practicable. Tops of slopes will be rounded to blend with the landform and reduce erosion. Existing vegetation will be disturbed as little as possible (generally not more than 5 feet beyond the rounded top or toe of cut/fill slopes). High cut slopes may be serrated to enhance revegetation.
- Exposed soil surfaces will be stabilized against erosion and revegetated with native vegetation as soon as possible after regrading.
- Rock cuts will be left rough textured or sculptured to provide a natural appearance.

Regarding recreational uses, the proposed project is meant to serve the increasing recreational traffic as well as other traffic using the North Fork Road. The reduction of dust and vehicle wear caused by the existing rough, gravel road would be recreational benefits with Alternative B and C. Alternatives D and E would provide a better and safer gravel road. All construction alternatives (B, C, D, E) would increase sight distance and safety with improved curvature and roadside clearing thus reducing the apprehension of recreational motorists.

Construction of the project would probably extend over 4 construction seasons. During construction, recreationists and other road users would be temporarily inconvenienced due to construction vehicle traffic and operations (e.g., blasting, earthwork, etc.). Such delays are unavoidable on large construction projects but would be minimized with a traffic control plan aimed at providing maximum road service with minimum delays. Planned traffic delays will be advertised and posted.

Although some recreational use would benefit by road improvement, other recreational uses could also be adversely affected over the long term as a result of improved access and heavier recreational use. Bull trout fishing, big game hunting, camping, and river floating are popular activities that are based on limited resources and currently provide a very high quality recreational experience due in large part to relatively light use in this remote area. These activities may become less attractive as more people compete for limited recreational resources. Increased regulations and permitting systems may be needed sooner with improved access, varying in scale with the degree of improvement with greater impact caused by a paved road. Possible long term effects of improved access could include:

- reduction of the number of trophy and other Bull trout caught per fisherman effort;
- reduction of big game hunting effectiveness (per hunter effort);
- gradual reduction of the quality of the river floating experience although commercial outfitter floating permits are relatively lightly used at present; river floating by local (non-commercial) recreationists has recently shown increase and the current primitive, low-use character of North Fork floating may change quickly given the existing increasing use and prospective road improvement;
- gradual reduction of campsite availability although campgrounds are currently lightly used except on summer and fall weekends and holidays;
- gradual reduction of the primitive characteristics of the North Fork Valley.

Air Quality

The proposed reconstruction of Forest Highway 61 will not have a significant adverse impact on air quality. The rural low-volume facility proposed will not cause sufficient emissions of photochemical oxidants, oxides of nitrogen, hydrocarbons, and carbon monoxide to create any significant health hazard. This project is located in an area where the State implementation plan for air quality does not contain any transportation control measures. Therefore, the conformity procedures of 23 CFR 770 do not apply.

If the chosen alternative has a gravel surface (Alternative A, D, or E), the expected increase in traffic will cause an increase in fugitive dust, but not a sufficient amount to significantly impact the high air quality that presently exists in the North Fork Flathead River valley.

If the chosen alternative has a paved surface (Alternative B or C), fugitive dust in the roadway corridor will be significantly reduced. However, the Flathead River Basin Study has shown that fugitive dust increases with an increase in development, and EPA states in their publication, Guideline for Development of Control Strategies in Areas with Fugitive Dust Problems, EPA A-450/2-77-029 (OAQPS No. 1.2-071), October 1977, p. 3-40: "While road improvements may reduce dust emissions on unpaved roads, increasing traffic in future years will tend to offset this benefit. The projected ADT for unpaved roads may be assumed to be directly related to expected population growth for the area."

It is doubtful that the paved alternatives will result in any significant improvement in the air quality of the North Fork Flathead River valley, but they will produce a significant beneficial effect for motorists using the road between Canyon Creek and Camas Junction by eliminating the dust plumes caused by vehicles.

To avoid any significant particulate pollution caused by construction activities, the contract will require that construction dust be controlled with the application of water or other approved dust palliatives.

Prior to beginning construction work, the Montana Air Quality Bureau will be contacted so they may send a representative to the site during construction to determine if the Contractor is in compliance with all appropriate laws and regulations concerning air quality.

Social and Economic Environment

Social -- The direct impacts of reconstructing the Canyon Creek to Camas Creek segment to a paved road include reduced wear on vehicles, and reduced travel time between the upper North Fork and community centers. Paving would also eliminate the dust nuisance that now exists, and make travel conditions on this segment more pleasant. Alternatives D and E (unpaved) would provide a safer facility, but other benefits would be less than with a paved road.

Indirect impacts will occur in the areas of residential development, public and county services, sewage and waste disposal, management, vandalism and law enforcement.

The North Fork Flathead River Valley is considered by the residents attending public meetings concerning highway improvement to be a beautiful and desirable place to live. During the last decade, considerable subdivision activity has occurred, and there has been some sale or development activity. It is likely that two factors constitute the reason for slow development-- difficult access and lack of commercial electricity. Today, North Fork residents must supply their own electricity which is usually done with individual generators. And a trip to the nearest community is still long, hard, dusty, and often bone jarring. Many people who are moving into the rural areas of Flathead County are unwilling to make the convenience sacrifices necessary to live in the North Fork valley.

However, if Forest Highway 61 is paved to Camas Junction, access to the upper North Fork valley will be somewhat easier than it now is. Because of the high demand for rural property in Flathead County, it is likely that sales and development in the North Fork will increase. With more people living in the North Fork, the demand for commercial electricity will be greater and the likelihood of electrical lines being extended up the North Fork is increased. An accurate prediction of how much residential development will occur in the North Fork whether this section is paved or not is difficult to make, but the Forest Service states on page 26 of their Cumulative Effects Study Glacier View Ranger District, February 1981, in the section entitled "Private Land and Subdivision Development" that: "It is expected that the population in the North Fork will increase proportionately to the increase in population in Flathead County."

As the population and use of the North Fork valley increases, it is likely that the Forest Service will see increased use of forest resources, particularly recreation resources. This change in use patterns will require changes in management and administrative direction. The Forest Service will be able to accommodate these changes as they arise by means of their short, medium, and long range planning programs.

The maximum anticipated growth in the North Fork over the next 20 years is more than double the existing population. Without paving, growth is expected to be only slightly less. Growth estimates for the North Fork Valley are based on traffic growth presented in the "PURPOSE AND NEED FOR THE PROJECT" section.

As development increases in the North Fork (regardless of cause) demand for county services will increase. Even though the tax base will also increase with development, a county planning official has expressed the concern that the demand for services will exceed the increased tax revenue, thus placing a greater financial burden on the rest of the county.

The Flathead County Board of Commissioners has accepted maintenance responsibility for this project after it is reconstructed. The Board's letter is included in the "Comments and Coordination" section.

The entire population of Flathead county (including minority segments) will participate in financing increased County service requirements in the North Fork valley since it is unlikely that the cost of services in the valley can be born entirely by the valley residents. The cost of these increased service needs will appear to the County population through either increased taxes or reduced services in other areas. These increased costs, spread over the entire county population will be small.

Several citizens expressed the concern that as the number of people using the North Fork valley increases, vandalism and other unlawful actions will increase. To adequately handle law enforcement as development and use in the North Fork increases, County law enforcement personnel will have to spend a greater amount of time in the area. A narrative from the Flathead County Sheriff Department, published in the Forest Service Cumulative Effects Study, 1981, page 57, states: "[crime incidents] will continue to increase throughout the county as population of the Valley grows. An improved road system into the North Fork, gas/oil/ mineral exploration of the area, will bring greater amounts of people activity. Thus, law enforcement problems are expected to rise sharply. . . . The Flathead Sheriff's Department is experiencing growing pains due to the County's population growth, economics, and understaffing of the department." An increase in growth in the North Fork will add to these growing pains. Residents of the North Fork are likely to face the prospect of increased crime as population and use in the area increases.

As residential development increases, the use of septic tanks for home sewage treatment will also increase. As development continues to occur, sewage pollution in the water courses of the North Fork valley will increase. This increase is usually gradual coinciding with the pace of development, and depending on various conditions such as, ground water table, soil porosity and location with respect to drainages, long term pollution can range from slight to very noticeable.

Litter and trash generated by households and recreational activities will increase in volume with an increase in human activity in the North Fork. An increase in trash output will require increased management and expenditures by the County and the Forest Service.

Impacts on housing availability should be slight. The average size of a construction crew for this type of project is 30 people. Columbia Falls and other nearby communities can easily handle this number of people. Long term increases in population in the North Fork Valley and nearby communities will occur gradually allowing housing availability to keep up with demand.

There are no residences or businesses along this section so none will be displaced or disturbed if this proposal is implemented.

Nearly all of the above impacts are related to increased use and development in the North Fork. The indirect impacts resulting from the increase in traffic will be minimal and should not result in a significant impact to the social environment.

Economics--The Flathead County Commissioners believe that maintenance cost will be materially less with the build alternatives, especially Alternates B and C. The tax base in the valley will increase with the increase in sub-division and development.

Contruction money will give a temporary boost to the economy of Columbia Falls and other nearby communities, however, this boost will last only as long as construction work lasts. Construction will cause inconvenience to the public and possibly monetary costs to logging companies hauling on this road. At this time, it is not believed that long delays will be necessary, but it is possible that occasional short delays may increase haul time for log trucks causing minor economic hardship.

The U.S. Forest service will realize the following economic benefits if the proposal is implemented with a paved surface (Alternatives B or C):

- Travel time to all areas of the forest north of Canyon Creek will be reduced. This reduction in travel time will result in reduced administrative costs.
- Ten additional miles of pavement will reduce maintenance costs of government vehicles, and therefore, reduce administrative costs.
- Pavement will reduce maintenance and haul costs for logging companies. A portion of this savings will be returned to the government in the form of increased prices paid for logs.
- National Forest management efficiency will be improved.

The estimated long term (20 years) increase in traffic and forest use will require additional management and administration which will offset some of the benefits from reduced travel time and maintenance.

Flathead County receives from the U.S. Forest Service 25 percent of all money received from the sale of Forest resources (timber, minerals, recreation, grazing, etc.). Therefore, as the amount of money paid to the Forest Service increases (resulting from reduced vehicle maintenance costs and other overhead costs with a paved road) the amount of money paid to the County will increase.

The grizzly bear has some direct economic value to Flathead County and northwestern Montana. This direct value is probably not large and would be difficult to measure, but it would include revenue from tourists attracted to the area primarily because of the grizzly. In addition, a small amount of revenue is derived from the sale of a limited number of grizzly bear hunting permits.

Construction Impacts

Highway construction operations have inherent environmental impacts. These include: erosion hazard, noise, dust, unsightly appearance and inconvenience.

Erosion hazard is discussed in detail in the sections entitled "Water Resources-Water Quality" and "Fisheries" in the ENVIRONMENTAL IMPACTS section, but two areas relating specifically to construction operations will be discussed here--winter shutdown and housekeeping practices. If it is necessary for the contractor to shut down part or all of his operations because of winter conditions, he will first prepare the unfinished roadbed, cuts, fills, and structure sites to reduce the possibility of accidental pollution to the greatest practicable extent. Specific measures to be used will be detailed in the approved sediment and erosion control plan.

To insure good housekeeping practices, the contract will require that the contractor's staging areas be maintained in a reasonable condition of cleanliness, and that all litter associated with the contractor's operations at the staging site and throughout the project will be properly stored and disposed of. Under no conditions will litter be left where it might blow, wash or otherwise gain entry into any live stream. No equipment staging areas or stockpile areas will be located in any area known to be of high value to grizzly bears.

Noise will occur on any highway construction project. It is impossible to prevent it. But, to assure that unnecessary noise does not occur, the contract will require that the contractor's equipment be properly muffled.

Dust will be controlled by the application of water or other approved dust palliative.

The disrupted appearance of construction operations (other than litter discussed above) is a normal part of a construction project and cannot be avoided. It is, however, temporary and will not remain after construction is completed.

Another construction impact that is impossible to prevent when constructing along the alignment of an existing road is inconvenience to travelers. The FHWA recognizes the need to maintain traffic circulation along this route. The designer and project engineer will work closely with the U.S. Forest

Service and Flathead County to develop a traffic circulation system which may involve detours, short duration closures (10 to 30 minutes) or long duration closures (3 to 4 hours). At best, the road user will have to pass through the construction site at a slow speed.

Information concerning construction activities and delays will be posted at appropriate locations to alert motorists to travel conditions.

UNAVOIDABLE ADVERSE IMPACTS OF THE PROPOSED ACTION (ALTERNATIVE D)

Construction Impacts

Highway construction operations will have temporary environmental impacts that are inherent in any project. Dust will occur along the project even though water and dust palliatives will be used for dust control. Construction noise will be noticeable, and construction activities will have an unsightly appearance. Temporary, minor, and local increase in stream turbidity/sediment may occur due to erosion of exposed soils at construction sites.

Construction activities will cause some transportation delays which, in turn could cause minor economic losses to log haulers and inconvenience to the public.

Floodplains

The proposed project will encroach on the 100-year floodplain of the North Fork (about 4,000 linear feet along the Great Northern Flats area); total encroachment would be about 2 acres. The project would require the placement of a total of about 2000 cu. yds. of fill below the ordinary high water level of the river (at four locations).

Vegetation

The proposal would convert to road use or disturb about 75.5 additional acres of lowland forest and upper floodplain vegetation along the existing road. However, natural forest succession will gradually occur over time in part of the disturbed area.

Wildlife

The project would convert about 12.5 acres (subject to final design calculations) of the Big Creek to Camas winter range to road use thus reducing ungulate winter range and cavity-nesting bird habitat. Construction activities will be a temporary disturbance to area wildlife.

Threatened/Endangered Species

The U.S. Fish and Wildlife Service has determined that Alternative D will avoid jeopardizing any threatened or endangered species (see biological opinion in appendix).

Scenic/Recreational Resources

The proposed project would generally result in cuts/fills one and one-half to two times larger than existing. A few higher cut areas such as at Canyon Point and Fool Hen Hill would also occur. The road grade elevation in areas such as Great Northern Flats would be raised 2 to 12 feet. The character of the road and roadside would change to one with a wider road and wider roadside cleared area extending out an additional 20 to 30 feet from the edge of the existing gravel road.

THE RELATIONSHIP OF THE PROPOSED ACTION TO LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND TO THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

AND

THE IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES BY THE PROPOSED ACTION

All of the past road improvements into the North Fork Valley have resulted in short-term gains (1-50 years) for individuals and groups by use of various natural resources. Examples of such short-term gains have been logging, homesteading, mining, grazing, tapping of fish-wildlife resources, and various recreational pursuits. The long-term results of such uses have been man-caused changes in physical parameters such as soil, water, air quality, and noise and changes in some plant and animal populations making up the ecosystem of the North Fork. None of these changes has been so great as to cause large-scale upset of the North Fork ecosystem although significant disturbances have occurred (e.g., near extirpation of the wolf). The remoteness of the North Fork has contributed to a historically low level of activity and impacts. Probably the greatest long-term effect of the earlier actions of man has been to set the stage for many continuing and new uses now occurring or forecast to occur in the North Fork in greater magnitude. These uses are discussed in other sections. Man's continued and growing interest in and use of the North Fork have generated the desire for continuing road improvements in the valley.

The proposed project (Alternative D) will continue the existing trend toward more human use and less primitive character of the valley. It is not likely that road improvement will increase access and use in the North Fork significantly above that with the existing road.

Finally, the proposed project itself would directly commit relatively non-significant amounts of resources to road use. Such resources include:

- oil and oil derivatives used for construction operations and any differential between oil/gasoline used (by road user traffic) with Alternative D compared to Alternative A - No Build.
- gravel (crushed rock) used for road base and surfacing; no significant differential is expected between Alternate A - No Build and Alternative D.
- labor and financial resources used in project studies and construction; these resources are allowed by federal law (Title 23) which directs that improvements to the Forest Highway System be studied and constructed if determined needed and desirable.
- approximately 75.5 additional acres of National Forest lands (including about 12.5 acres of the Big Creek to Camas winter range); these lands are similar to other National Forest lands in the lowlands of the North Fork Valley and, as such, constitute about 1 percent of similar lands in the project area (acreages subject to change in final design calculations).

PROPERTIES AND SITES OF HISTORIC AND ARCHEOLOGICAL SIGNIFICANCE

The National Register of Historic Places and its supplements have been consulted in compliance with Section 106 of the National Historic Preservation Act of 1966 and Executive Order 11593 of 1971. No Historic sites in the vicinity of this proposal were listed.

A cultural resources survey along the proposal was performed by the University of Montana in 1980. The University found no cultural sites, and recommended that no mitigation is needed at this time. The Federal Highway Administration agreed with their recommendation and determined that the proposal will have no effect on any known historic or archeological resources. The Montana State Historic Preservation Officer agreed with this determination. (Refer to the State Historic Preservation Officer's letters in the CONSULTATION AND COORDINATION section.)

The Federal Highway Administration realizes that cultural resources may exist below ground with no surface indication. If such resources are located during construction, work in the vicinity of the find will be immediately stopped. The Montana State Historic Preservation Officer, the Advisory Council on Historic Preservation, and Flathead National Forest will be notified. Construction at the find will not be resumed until the site has been evaluated and processed in accordance with all appropriate laws and regulations.

Section 4(f) Evaluation

North Fork Road
Montana FH 61

Proposed Action

This proposed improvement along the west side of the North Fork Flathead River, for 5.8 miles between Canyon Creek and Big Creek Work Station, is within the boundary of the Flathead River System, designated pursuant to the Wild and Scenic Rivers Act. This section has been classified as recreational. Reference is made to Purpose and Needs and Alternatives sections for detailed and pertinent information concerning this involvement.

Section 4(f) Resource

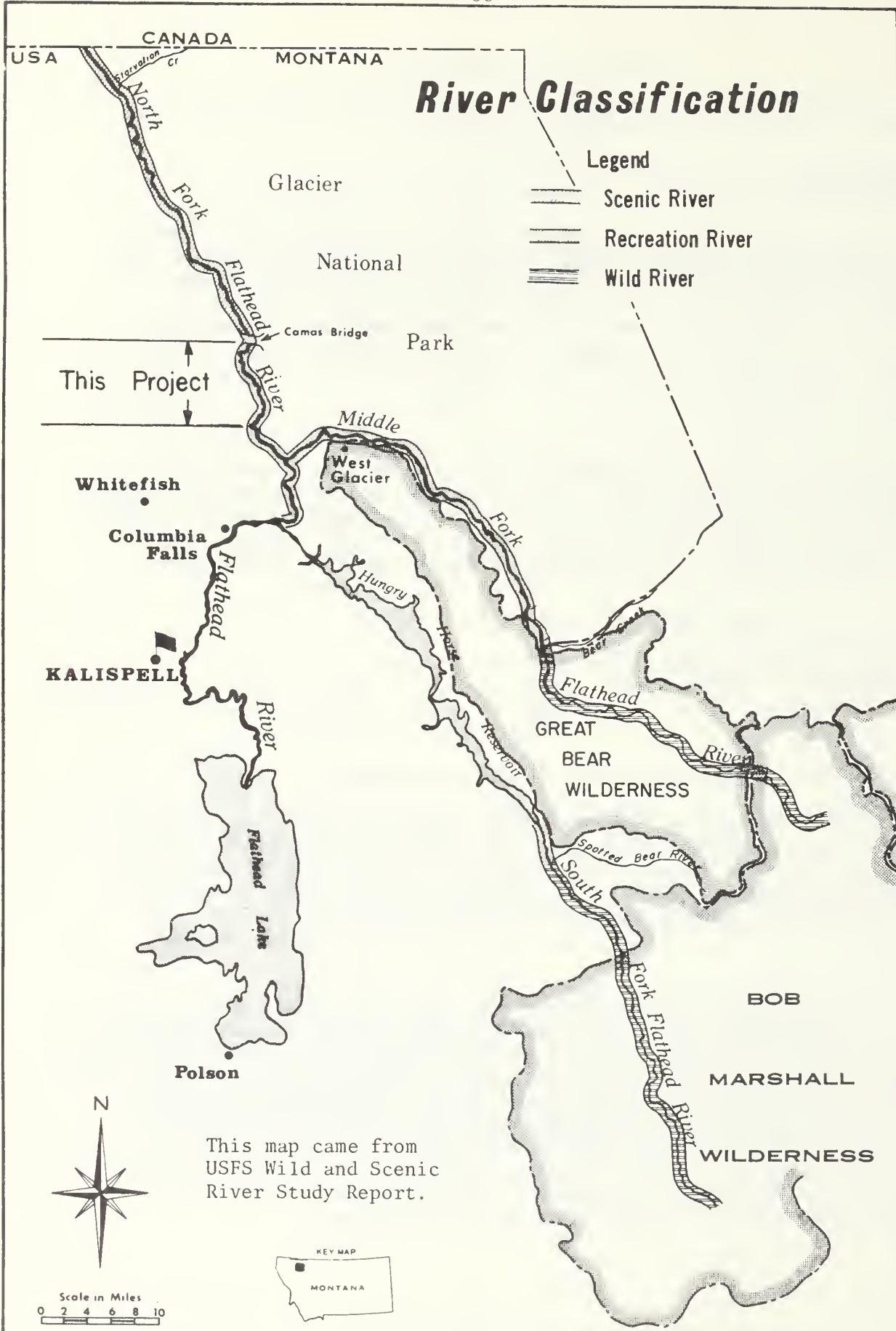
The following map shows the entire North, South and Middle Forks of the Flathead River System, its boundaries and the river classifications as recommended by the Forest Service, with involvement and concurrence of the National Park Service and the Bureau of Outdoor Recreation (now part of the National Park Service) and included in the system in 1976 by the Congress of the United States. The Flathead River System includes some 56,400 acres. This acreage is under jurisdiction of the following:

Flathead National Forest	61%
Glacier National Park	24%
Department of State lands	2%
Private	13%
	<u>100%</u>

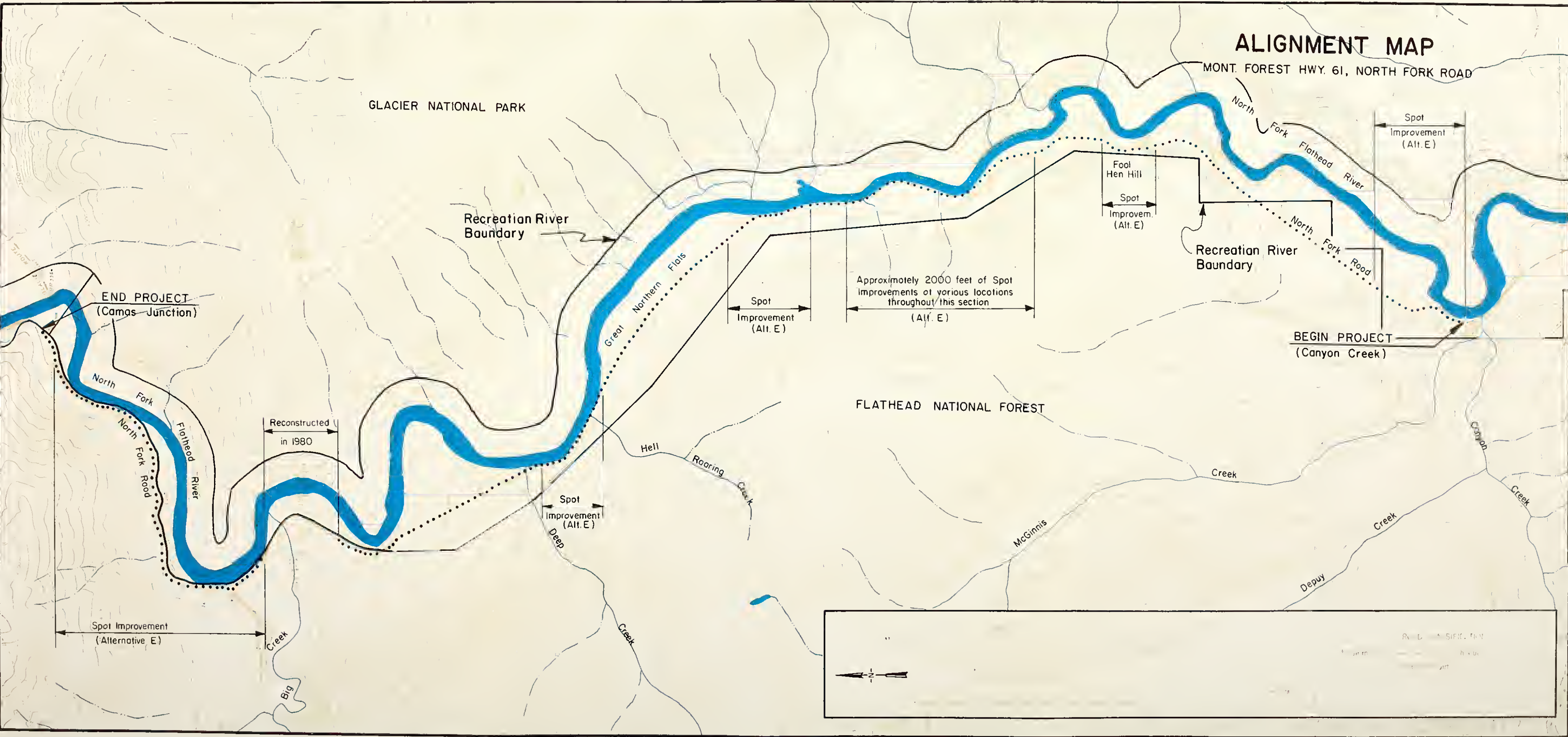
Thus, 87 percent of this acreage is publicly owned land.

The Flathead River System includes a wide variety of scenic and recreational activities, with a comparable diversity of wilderness, wildlife, scenery and wild plants. Recreational activities include sightseeing, picnicking, backpacking, bicycling, cross-country skiing, snowmobiling, snowshoeing, firewood gathering, huckleberry picking, camping, hiking, hunting, and driving for pleasure. See Land Use and Natural Resources for detailed information.

Except for the present highway right-of-way which is maintained by Flathead County, the land within the approximate 1/4 mile recreational boundary west of the North Fork Flathead River and within the project limits is administered by Flathead National Forest. The land within the 1/4 mile recreational boundary east of the North Fork Flathead River is administered by Glacier National Park. There is no apparent conflict in the recreational area east of the river being managed as low-use wilderness. The road on the west side of the river from the Big Creek work station north to Camas Junction is not within the recreational boundary. The following map shows the existing roadway and the recreational river boundaries.



ALIGNMENT MAP



The recreational designated area in the Flathead National Forest will be encroached upon and land taken to widen the existing roadway under the "build" alternatives. Accordingly, approval of the project is prohibited by regulations written pursuant to Sections 4(f) of the Department of Transportation Act and 138 of Title 23, United States Code, commonly referred to as 4(f), unless:

1. there is no feasible and prudent alternative to the use of such land, and
2. the program includes all possible planning to minimize harm resulting from such use.

Alternatives

The Forest Highway program agencies--the U.S. Forest Service, the Montana Department of Highways and the Federal Highway Administration (Central Direct Federal Division)--are considering four build alternatives to reconstruct all or parts of this highway and comparing these with the no-build alternative.

- Alternate A, no-build, maintain the existing roadway at current maintenance level
- Alternate B, rebuild to a 50 mph design speed with an asphalt paved surface
- Alternate C, rebuild to a 35 mph design speed with an asphalt paved surface
- Alternate D, rebuild to a 35 mph design speed with a gravel surface (preferred alternative)
- Alternate E, rebuild to a 35 mph design speed with a gravel surface only in critical areas (spot improvements)

Following is a brief numerical comparison of the alternatives:

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
Design standard, mph		50	35	35	35
Length, miles	10.0	10.0	10.0	10.0	5.0
Construction cost, \$ million	NA	6.0	5.0	4.0	2.5
Annual Maintenance Costs	\$ 40,850	\$40,840	\$37,370	\$124,820	\$168,600
Minimum ROW width, feet	100	160	120	120	120
Existing ROW, acres	121				
Add'l ROW, acres		83	50	50	21
Existing disturbed area, acres	48*				
Add'l disturbed area, acres		77	74	75.5	36
ROW from 4(f) lands, acres		50	26	26	12
Add'l disturbed 4(f) lands, acres		34	31	31	8

* Present highway averages 40 feet in width

Alternative A, the no-build option, does not take 4(f) land. The existing road would continue to be used and maintained by Flathead County as best possible. To not improve the existing highway, however, would perpetuate the present conditions. As shown in the discussion in the "Purpose and Needs" section, the present gravel-surfaced highway does not have the capacity to handle the type of traffic using it nor the projected future traffic volumes. The major justification for this project is to provide a structurally adequate and maintainable highway having the capacity to serve traffic and forest management needs.

Maintenance cost on the present gravel surfaced highway is about \$41,000 per year. However, as shown in the maintenance discussion in the Purpose and Needs section, it is not economically feasible to maintain the highway to a safe, adequate condition.

Apparent positive effects of the no-build alternative would be the savings in costs, energy, and materials used during reconstruction; however, costs, energy, and gravels would continue to be consumed in maintaining the existing road. There would be slightly less traffic growth because of the unsatisfactory present road condition which would tend to hold down recreational travel and some developments and activities on private lands with their secondary cumulative impacts on the ecology.

The Forest Highway Program Agencies have determined that the no-build alternative has the following disadvantages:

- 1) it does not fulfill the purpose and needs of this forest highway.
- 2) road maintenance through surface blading, dust abatement and surface replacement is costly and unsuccessful.
- 3) maintenance equipment and personnel are required to expend unwarranted time, energy, and costs on this unpaved segment in an effort to minimize and repair deterioration, resulting in a safety hazard to both maintenance personnel and the motoring public.
- 4) the unsafe roadway conditions will be perpetuated with increasingly severe and negative effects.
- 5) the economical capacity of the present roadway has been exceeded once and will be exceeded again.
- 6) reconstruction is needed in order to accommodate the projected traffic volume and mix.

- 7) a consequential factor for paving is to eliminate the pervasive fugitive dust which settles, damages and degrades vegetation and wildlife, deposits pollutants into live streams and restricts visibility between vehicles.
- 8) loss of rock aggregates, causing impacts on material sources.

Extraordinary measures have been considered to avoid impacting this recreational area. There is the possibility of rerouting all or parts of the road to avoid all or parts of the area. However, 2 miles of the highway within the boundary involving privately owned lands has earlier been reconstructed on the south to an asphalt paved standard. The recreational boundary, for the most part, is located a considerable distance west of the existing road. A lengthy bypass which skirts the recreational boundary and involves privately owned lands on the south could possibly be utilized. Such a bypass would encounter relatively rougher terrain, steeper grades, sharper curvature, deeper cuts and heavier fills. A bypass would be more circuitous and costly than following the existing road; it would also create a second roadway scar on relatively pristine lands. Most of the existing highway would still remain in use in order to serve forest management and recreational needs near the river.

Accordingly, the bypass alternative is not considered prudent or feasible for the following reasons:

- 1) its costs are too high
- 2) an unnecessary second highway scar would be cut through a relatively pristine area
- 3) traffic service of a bypass alignment would be less than following the existing corridor
- 4) recreational needs are best served by the existing highway location
- 5) additional and unnecessary conversion of public and private lands to highway use
- 6) unnecessary use of natural resources
- 7) the environmental and socio-economic impact is unfavorable; there would be opposition from public and agencies on grounds of more significant impact of a bypass on wildlife and wildlife habitat
- 8) a bypass would require total construction in order to provide benefit to the public; whereas, the existing road could be reconstructed in stages and provide benefit and relief to traffic as each segment was completed. Available funding would require several years to complete the entire bypass project.

For the above reasons and mindful that this area was designated recreational because its attributes are served by a Forest Highway, it was determined that the extraordinary measures necessary for this project are to follow the present road closely and to minimize the use of additional recreational designated lands.

Alternate B constitutes the design and build alternative used earlier for the improvement completed in the vicinity of the Big Creek Work Station. This alternative would rebuild the road to a 50 mph asphalt paved standard following the existing alignment. Over 90 percent of the existing road is included in the proposed roadway prism. The average width of roadway prism (construction limits) including clearing areas, would be approximately 72 feet. The minimum right-of-way would be 160 feet with more in areas of high cuts and fills.

Alternate C would rebuild the road to a 35 mph asphalt paved standard, closely following the existing alignment. Over 95 percent of the existing road is included in the proposed roadway prism. The average width of the roadway prism including clearing areas would be approximately 70 feet. The minimum right-of-way would be 120 feet with more in areas of high cuts and fills.

A proviso to utilize a curb and gutter section in critical areas would lessen the cut and fill by 7 feet for Alternate B and 6 feet for Alternate C.

Alternate D would rebuild the road to a 35 mph gravel surface closely following the existing alignment. As in C above, over 95 percent of the existing road is included in the proposed roadway prism and the average width of roadway prism, including clearing areas, would be the same as for Alternative C. However, because it lacks positive surface drainage, a curb and gutter could not be effectively used with the gravel standard. The minimum right-of-way would be 120 feet with more in areas of high cuts and fills.

The Forest Highway Program Agencies have determined that Alternative D has the following disadvantages:

- 1) in order to fulfill the purpose and needs of this forest highway, more maintenance attention must be provided to prevent problems such as rutting, washboarding, chuckholes, surface erosion, ponding of water, loss of roadway embankment, excessive loss of gravel, and pervasive dust.
- 2) repetitive, costly and unsafe road maintenance operations through surface blading, dust abatement and surface replacement on a rebuilt gravel-surfaced roadway may not be adequate.
- 3) a consequential factor for paving is to eliminate the pervasive fugitive dust which settles, damages and degrades vegetation and wildlife, deposits pollutants into live streams and reduces visibility between vehicles.

- 4) loss of gravel aggregates, causing impacts on material sources.

Alternate E would entail the spot improvements or reconstruction only in the most critical areas or hazardous locations. Right-of-way width would be that needed to accommodate heavy cut areas.

Spot improvements of the most critical areas would provide some immediate benefits. However, Alternate E will not provide the greater capacity or structural section needed for the entire project. Because each of these sites involves heavy excavation, their project limits must be extended to efficiently utilize the excavated material in other areas, where the highway needs to be raised, instead of unnecessarily wasting it. It has been determined that Alternate E has nearly the same disadvantages as the no-build alternative.

The build alternatives provide a facility which have more capacity and which will be safer than the existing condition. They will be engineered to provide a consistent alignment and roadway width; flatter roadside slopes; lateral and longitudinal sight distance; base and surfacing meeting specifications for strength, durability, etc.; guardrail at high embankments; properly sized ditches, culverts and underdrains for positive drainage. The gravel alternatives will require more maintenance attention to prevent problems such as rutting, washboarding, chuckholes, surface erosion, ponding of water, loss of roadway embankment, excessive loss of gravels and pervasive dust. Maintenance costs for the alternatives are found in Appendix A.

Mitigation Measures

The project will have a short term adverse scenic effect within the construction limits until revegetation is established. However, the long term effect of a well designed facility will correct some present erosion and exposed areas and will allow the users more opportunity to view the scenery and landscape.

The following measures will reduce adverse impacts to an acceptable level:

1. A landscape/erosion control advisory team will be utilized during the design and construction stages. This team will recommend measures to preserve and restore the native setting and vegetation. It will recommend roadway slopes conforming to natural contours and land forms and suitable locations and designs of needed pullouts and parking areas which do not conflict with the habitat or crossing needs of the grizzly or big game.
2. There will be only slight alignment shifts to increase sight distance on sharp and/or consecutive curves. The preferred alternative takes 33 less acres of recreational land than Alternative B - the standard utilized on past projects.

3. Temporary and permanent erosion control measures will be included in an erosion control plan developed in coordination with the Flathead Conservation District and the Montana Department of Fish, Wildlife and Parks. The project engineer and contractor will together develop a schedule for implementation of the erosion/sediment control measures outlined in the erosion control plan. It is not possible that sedimentation due to construction would compare with pollution from the existing road.
4. Measures to reduce or prevent harm to the North Fork Flathead River, its tributaries, and floodplains will be developed by the project landscape/erosion control team and project designer in coordination with the Montana Department of Fish, Wildlife and Parks and the U.S. Fish and Wildlife Service. Specific commitments to these measures will be included in the project plans.
5. To protect existing water quality and flows, the project design will be coordinated with the Flathead Conservation District and Montana Department of Fish, Wildlife and Parks. These agencies will help determine the best means to provide adequate roadway and slope drainage while preserving surface water and shallow groundwater levels and quality. Agreed-upon measures will be included in the project plans.
6. For protection of water quality from point source discharges during construction, the contractor will comply with all Federal, State, and local statutes and regulations controlling effluent discharges.
7. No additional public use areas are planned within the project area.
8. All drainage structures across streams with fisheries will accommodate fish passage.

In addition, all of the mitigation measures listed earlier as well as other feasible measures not yet developed will be incorporated into the plans if determined to be beneficial for bear management as we continue consultation with other agencies having responsibility for grizzly bear management and protection.

Consultation and Coordination

(See the complete discussion under this title)

The proposed improvement is being accomplished in close cooperation with the U.S. Forest Service, Montana Department of Highways, Montana Department of Fish, Wildlife and Parks, and Flathead County together with other Federal, State, and local agencies. Public and interagency involvement commenced in 1975 and has continued. Involvement has been via public and interagency meetings, field and office reviews, correspondence, newsletters and telephone.

Coordination with the Secretaries of HUD, Interior, and Agriculture, as required by Section 4(f), has revealed a concern relative to two endangered species, the Gray Wolf and Grizzly Bear. However, the gray wolf does not frequent our project area. Fish and Wildlife Service (FWS) has rendered an opinion that Alternatives B and C are likely to jeopardize the continued existence of these species. As noted in the Threatened and Endangered Species section, formal consultation with FWS has been concluded with adoption of Alternative D as the preferred and recommended alternative.

The Department of the Interior offers no objection to Section 4(f) approval of Alternatives C, D, or E provided adequate measures to minimize harm, resulting from additional interagency coordination as discussed above, are included in the project plans. This position, however, relates only to Section 4(f) and not to the endangered species position taken by U.S. Fish and Wildlife Service against Alternative C.

The North Fork drainage situation is receiving a comprehensive overview. Two meetings (May, August and November 1982) have been held between Flathead National Forest, Glacier National Park, Department of State Lands, Department of Fish, Wildlife, and Parks, and Flathead County to discuss all aspects of this improvement relating to their respective planning. Other meetings will be forthcoming.

The Forest Highway Program agencies have concluded that reconstruction of the entire 10-mile project is essential to serve traffic and forest management needs. After full consideration of public and agency views as well as conditions in the jeopardy opinion, Alternate D is considered the only feasible and prudent alternative available and is recommended as the preferred alternative. Alternate D includes all possible planning to minimize harm resulting from the use of Section 4(f) land.

A final decision concerning an alternative will be contained in a Record of Decision made by the FHWA Regional Director of Environmental Programs in Denver.

VI. LIST OF PERSONS RESPONSIBLE FOR PREPARING AND REVIEWING THIS DOCUMENT

Robert E. Arensdorf
Federal Highway Administration
Central Direct Federal Division
Classification - Highway Engineer
Position - Environmental Planning Engineer

Education - B.S. Mechanical Engineering

Experience - Hwy. Engineer--10 yrs.
- Hwy. Environment --14 yrs.

Areas of Responsibility:

- Supervisor Environmental Section
- Document Review
- Purpose and Need
- Alternatives
- Section 4(f) Evaluation

William R. Bird
Federal Highway Administration
Central Direct Federal division
Classification - Highway Engineer
Position - Staff Environmental Engineer

Education - B.S. Civil Engineering
Experience - Hwy. Engineering--7 yrs.
- Hwy. Environmental--11 yrs.

Areas of Responsibility:

- Environmental Team Leader
- Air Quality
- Noise
- Social and Economic Resources
- Cultural Resources
- Construction Impacts
- Engineering

Fred Hempel
Federal Highway Administration
Office of Environmental Programs
Classification - Community Planner
Position - Director of Environmental Programs

Education - B.E. Civil Engineering
- M.S.C.E. Highway. Planning & Traffic Engineering

Experience - Hwy. Engineer--5 yrs.
- Hwy. Planner--6 yrs.
- Hwy. Environment--8 yrs.

Areas of Responsibility:

- Review and Approval of Document

Robert F. Falkenstein
Federal Highway Administration
Central Direct Federal Division
Position - Environmental Protection Specialist

Education - B.S. Biology
Experience - Environmental Specialist--7 yrs.

Areas of Responsibility:

- Land Use and Natural Resources
- Geology, Soils, Topography, Seismicity
- Climate, Water Resources, Water Quality
- Vegetation
- Fishery
- Wildlife
- Threatened and Endangered Species
- Scenic, Recreational Resources
- Flood Plains

VII. LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT WERE SENT

Federal Agencies (U.S.)

Environmental Protection Agency, Washington, D.C.
 Environmental Protection Agency, Denver, Colorado
 U.S. Department of the Interior, Washington, D.C.
 (DOI, Washington, will distribute copies of the draft EIS to Interior agencies that have an interest in this proposal.)
 U.S. Forest Service, Washington, D.C.
 U.S. Forest Service, Missoula, Montana
 U.S. Forest Service, Kalispell, Montana
 U.S. Forest Service, Columbia Falls, Montana
 Soil Conservation Service, Kalispell, Montana
 Federal Emergency Management Agency, Denver, Colorado
 U.S. Department of Housing and Urban Development, Denver, Colorado
 U.S. Department of Defense, Corps of Engineers, Seattle, Washington
 Federal Highway Administration, Washington, D.C.
 Federal Highway Administration, Denver, Colorado
 Federal Highway Administration, Helena, Montana
 Flathead River Basin Study, Kalispell, Montana

Montana State, County, and City Agencies

Montana Environmental Quality Council, Helena, Montana
 Montana Department of State Lands, Helena, Montana
 Montana Department of Natural Resources and Conservation, Kalispell, Montana
 Montana Department of Health and Environmental Sciences, Kalispell, Montana
 Montana Department of Health and Environmental Sciences,
 Air Quality Bureau, Helena, Montana
 Water Quality Bureau, Helena, Montana
 Water Quality Bureau, Kalispell, Montana
 Montana Department of Fish, Wildlife, and Parks, Helena, Montana
 Montana Department of Fish, Wildlife, and Parks, Kalispell, Montana
 Montana Department of Fish, Wildlife, and Parks, Bozeman, Montana
 Montana Historical Society, Helena, Montana
 Montana Department of Highways, Helena, Montana
 Montana Department of Highways, Kalispell, Montana
 Montana State Clearinghouse, Helena, Montana

Flathead County Planning Board, Kalispell, Montana
 Flathead County Extension Office, Kalispell, Montana
 Flathead County Conservation District, Kalispell, Montana
 Flathead City and County Health Department, Kalispell, Montana
 Flathead Drainage 208 Project, Kalispell, Montana
 Kalispell Areawide Planning Office, Kalispell, Montana

Government Officials

Mayor of Kalispell, Kalispell, Montana
 Mayor of Columbia Falls, Columbia Falls, Montana
 Mayor of Whitefish, Whitefish, Montana
 Honorable Max Baucus, U.S. Senator, Washington, D.C.
 Honorable John Melcher, U.S. Senator, Washington, D.C.
 Honorable Pat Williams, U.S. Representative, Washington, D.C.
 Honorable Ron Marlenee, U.S. Representative, Washington, D.C.
 Chairman, Flathead County Commission, Kalispell, Montana

News Media

The Missoulian, Missoula, Montana
 The Missoulian (representative), Kalispell, Montana
 Kalispell Weekly News, Kalispell, Montana
 Daily Inter Lake, Kalispell, Montana
 Hungry Horse News, Columbia Falls, Montana
 Bigfork Eagle, Bigfork, Montana
 Whitefish Pilot, Whitefish, Montana
 Glacier Reporter, Browning, Montana

Libraries

Flathead County Library, Kalispell, Montana
 Whitefish Branch Library, Kalispell, Montana
 Columbia Falls Branch Library, Kalispell, Montana
 Missoula City-County Library, Missoula, Montana
 Montana State Library, Helena, Montana
 University of Montana
 Main Library, Missoula, Montana
 Environmental Library, Missoula, Montana
 Forestry Library, Missoula, Montana

Universities

University of Montana, Missoula, Montana
Montana State University, Bozeman, Montana

Utilities

Pacific Power and Light Co., Kalispell, Montana
Northwestern Telephone Systems, Inc., Kalispell, Montana
Flathead Electric Cooperative, Inc., Kalispell, Montana
Montana Power Company, Butte, Montana

Organizations and Businesses

A copy of the final EIS was sent to those organizations and businesses which requested a copy or had a significant comment on the draft EIS.

VIII. COMMENTS AND COORDINATION

During the development of this proposed project, the Forest Highway Program agencies have solicited and considered much correspondence from the public and local, state, and federal governmental agencies. A sequence of public and interagency meetings have been held and newsletters/environmental analysis documents issued to identify and address the issues and concerns of this project. This scoping process has included:

Sequence of Past Events

1979--The decision was made to begin preliminary engineering on 10 miles of Forest Highway Route 61 between Canyon Point and Camas Junction.

July 1979--Social, Economic, and Environmental (SEE) Team established.

August 14, 1979--Interagency and SEE Team meeting held in Columbia Falls, Montana.

September 5, 1979--Public meeting held at Whale Creek Community Hall north of Polebridge, Montana.

September 6, 1979--Public meeting held at Columbia Falls Junior High School in Columbia Falls, Montana.

April 8, 1980--Formal consultation with U. S. Fish and Wildlife Service, concerning threatened and endangered species was requested.

July 14, 1980--U. S. Fish and Wildlife Service submitted a non-jeopardy opinion for the bald eagle and the peregrine falcon, and a jeopardy opinion for the grizzly bear and gray wolf.

July 25, 1980--Continuation of endangered species consultation process requested by FHWA.

September 9, 1980--Continuation of endangered species consultation process agreed to by U. S. Fish and Wildlife Service.

December 11, 1980--An interagency meeting was held in Kalispell, Montana, to discuss threatened and endangered species.

March 1981--An endangered species task force was established to aid in the continuation of the formal consultation process.

June 11, 1981--A SEE Team meeting was held at the project site.

June 12, 1981--An endangered species task force meeting was held in Columbia Falls.

August 12, 1981--A public meeting was held at the Whale Creek Community Center north of Polebridge, Montana.

January 1982--Distributed draft environmental impact statement.

March 17, 1982--A corridor/design public hearing was held in Columbia Falls, Montana.

January 1983--Distribute final environmental impact statement.

(Tentative Sequence of Future Events: April 1983--Record of Decision signed; May 1984--Begin construction.)

This coordination process identified and addressed significant concerns and divergence of opinion among agencies and the public as to whether a paved improvement of the road (Alternate B or C) would significantly contribute to an ongoing gradual change of the remote character of the North Fork (particularly north of Camas Junction) to one of easier access and more adverse cumulative impacts due to road improvements, logging, recreational use, subdivision and residential/commercial development, and oil/gas/coal exploration and development. Many of the public, environmental interest groups, and agencies forecasted a loss of the "semi-wilderness" values of the North Fork. Such concerns were focused by the impact assessment and consultation process for four protected endangered/threatened species of the North Fork; the U. S. Fish and Wildlife Service determined that paved road improvement (Alternates B or C) would be likely to further jeopardize the grizzly and wolf populations. Many local residents (as well as State and out-of-state residents) expressed the desire to protect the relatively pristine resources and lifestyle of the North Fork from increasing use and degradation. At the March 1982 corridor/design public hearing, and during the 14-day comment period following, about 60% of the individuals/groups/agencies submitting comment (out of about 100 commentators) recommended a non-paving improvement of the road (Alternate E or D) or no improvement (Alternate A) but with better maintenance of the existing road.

Conversely, many local residents and some agencies and special interest groups supported a paved improvement of the road (Alternate B or C) to improve access, capacity, and safety. Most of these indicated that the degradation of the North Fork resources and loss of "semi-wilderness" character was already occurring and would occur whether the road was paved or not. They argued that continuing the present poor structural condition and maintenance problems of the existing road should not be used to restrain use or development. The condition of the road and the County's inability to fund adequate maintenance was cited as warrant for using federal forest highway program funds to rebuild the road.

To resolve this dilemma of opposing values/viewpoints/recommendations by the public and other agencies, the Forest Highway Program agencies have adopted Alternate D as the preferred alternative. Alternate D would not have environmental impacts significantly different from the existing road (and would not significantly improve access or stimulate use) but would improve the structural and safety features of the existing road and make it easier and cheaper for the county to maintain. If chosen, this compromise solution and the opposing values which caused its adoption as the preferred alternative will be further addressed in a subsequent "Record of Decision."

During the development of the project, many letters were received from the public and other agencies. Letters from the public are summarized in the table below followed by letters needing specific responses by FHWA.

Summary of all letters received: (less those requiring specific responses)	Alternative Supported					
	A	B	C	D	E	No prefer.
Letters from Flathead County residents	12	16	116	11	150	
Letters from Montana residents outside Flathead County	4	7	12	3	79	1
Letters from residents outside Montana	5	2	8	1	70	1
Total letters received all locations	21	25	136	15	299	2
Form letters received out of above total letters			3		159	
Petition signatures from residents/visitors living outside the North Fork			448	53	2094	
Petition signatures from North Fork landowners			127	169		

(ON THE FOLLOWING PAGES ARE AGENCY, GROUP, AND INDIVIDUAL LETTERS WHICH ASKED QUESTIONS OR RAISED SPECIFIC ISSUES ABOUT THE DRAFT EIS WITH FHWA RESPONSES ON THE FACING PAGES.)



U.S. Department of
Transportation
Office of the Secretary
of Transportation

Memorandum

Subject:

Draft EIS/Section 4(f) Statement, North Fork
Flathead River Road (Forest Highway 61), Flathead
County, Montana

Date: FEB 26 1982

From:

Martin Canvisser, Director
Office of Environment

Reply to
Attn. of

To:

Chief, Environmental Programs Division, FHWA/HEV-10

We have reviewed the Draft EIS for the North Fork Flathead River Road and have provided comments below. We recognize that the proposed project is consistent with local plans and is intended to reduce local expenses for maintenance while addressing the goal of providing improved transportation services to the county. There appears, however, to be a substantial conflict between the need to serve the local population and to minimize impacts to threatened animal species.

Wildlife Impacts

The potential effects of increased human activity associated with the improved highway on the threatened grizzly bear and grey wolf are severe. For the grizzly bear, the project study area is a critical part of one of two major grizzly habitats remaining in the continental U.S. Because of this the Fish and Wildlife Service has rendered a "jeopardy" opinion for both grizzlies and grey wolves with respect to a paved highway similar to the proposed alternative, indicating that proceeding with that alternative will likely jeopardize the continued existence of these two species. With this determination, the project may not, pursuant to the Endangered Species Act, proceed unless agreement can be reached with the FWS for adequate mitigation or unless the project is approved by the Cabinet-level Endangered Species Committee.

Mitigation

The most severe effects are caused by increases in human activity, including residential development, which would be supported and encouraged by construction of the road. There would be no means of fully mitigating these impacts if the paved road were constructed. If Alternative C continues to be the preferred alternative, the final EIS must contain firm commitments to mitigation sufficient to assure that there would be no jeopardy to the endangered species.

Project Justification

The major justifications for the preferred alternative are the annual \$130,000 difference in cost of maintenance and the need to reduce safety hazards. The annual savings to the county realized with a paved facility would be achieved at a capital cost of some \$2.5 million more than the cost of Alternative E, the limited upgrade option.

With respect to safety improvements, Alternative E would eliminate the hazardous conditions of the existing road and, unlike the preferred alternative, has no significant adverse impacts.

Alternatives

The final statement should give serious consideration to Alternative E, as recommended by the Fish and Wildlife Service. This alternative costs only one half as much as construction of the preferred alternative, addresses the safety problems of the existing facility and has been recommended by state and federal agencies as the least environmentally harmful of all build alternatives. We also note that, for those who prefer a paved facility, a road essentially parallel to the North Fork Flathead River Road is available on the other side of the River, except during the winter.

1. The earlier conflict focused on the impacts of a paved road improvement. With the adoption of Alternative D (gravel) as the preferred and recommended alternative, adverse impacts have been minimized, no threatened or endangered species will be jeopardized, and transportation service to the public will be improved.
2. The basis for Alternative D being the preferred alternative and a comparison of Alternative D with the other alternatives are given in the revised "Purpose and Need for the Project" and "Alternatives" sections. We note that although GNP Route 8 is a paved road, it goes through the Park toward West Glacier which is out-of-direction for North Fork road users going to and from the Columbia Falls/Kalispell area--the major trip generator. In addition, being a Park road, GNP Route 8 cannot be used by commercial/industrial traffic which commonly uses the North Fork Road.



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER 82/163

APR 23 1982

Mr. J. L. Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

This is in response to the request for the Department of the Interior's comments on the draft environmental/Section 4(f) statement for FH-61 (County Route 486), Flathead County, Montana.

SECTION 4(f) COMMENTS

The proposed project will directly use lands included within the boundary of the Flathead Wild and Scenic River, administered by the U.S. Forest Service. In addition, the project will have indirect effects on both Forest Service recreational lands and lands within Glacier National Park, under the jurisdiction of the National Park Service. These indirect effects are mainly related to projected increased human use of the North Fork area brought about by improved access, and include (1) increased use of Wild and Scenic River lands and waters, part of which lie within Glacier National Park, such use having the potential to adversely impact the qualities for which the River was established; (2) some increased use of Glacier National Park lands, such use having the potential to adversely impact the management goals of the Park, which are to manage the North Fork area as low-use wilderness; and (3) increased human pressures on wildlife populations, including endangered species populations, such pressures having the potential to adversely impact the wildlife and endangered species management goals of the North Fork land management agencies.

With regard to the first proviso of Section 4(f), we concur that the no-build alternative (Alternative A) is not a feasible and prudent alternative since, in order to even maintain existing traffic levels on the road, some improvements are necessary to correct safety hazards and to stabilize certain sections of the roadbed. We also concur that a bypass alternative is not a feasible and prudent action because this would involve construction on totally new right-of-way and would entail adverse environmental impacts of extraordinary magnitude. In addition, we concur that Alternative B is not a feasible and prudent alternative since its high design standards are in excess of what is needed to satisfy the project's purpose.

Mr. J. L. Budwig

2

This Department holds that selection of either Alternate C, D, or E would satisfy the first proviso of Section 4(f), depending on the outcome of the ongoing endangered species (Section 7) consultation, the results of additional interagency consultations concerning management goals in the North Fork drainage, and specific mitigation measures to be developed.

The Forest Highway Program Agencies' determination (item I, page 83), that Alternates D and E will not fulfill the statutory purpose and needs of this forest highway, is not adequately documented in the draft Section 4(f) statement. We note that the purpose of the proposed reconstruction is to satisfy future management practices of several Federal and State agencies and private interests in the North Fork drainage, and that the level of roadway reconstruction is to a large extent dependent upon these future management practices. Because there is such a close relationship between roadway reconstruction alternatives and alternative land management strategies in the area, we think that further discussion is needed of the effects that various management options will have on Section 4(f) lands.

In this regard, we note that there is considerable disagreement among the various Federal, State, and local agencies, and private interests, with responsibilities in the North Fork drainage as to the proper roadway improvement option. This prompts us to strongly recommend that additional coordinated planning for the whole of the North Fork region be undertaken, before an alternative is selected.

With regard to the second proviso of Section 4(f), we are in accord with the 7 mitigation measures listed on page 84 and recommend that they also be included in the plans and specifications for all proposed alternatives. In addition, project plans should include endangered species mitigation measures, such as those mentioned on pages 61-62, and any additional mitigation measures that may be developed during current endangered species consultations with the U.S. Fish and Wildlife Service (FWS). These measures, as well as measures developed during any additional interagency coordination that may be undertaken, should be documented in the final statement.

ENVIRONMENTAL STATEMENT COMMENTS

The analysis of traffic volumes and economic factors are important considerations in designating Alternative C as the preferred alternative. However, the analysis procedure used on page 4, paragraph 5, to project average daily traffic (ADT) to the design year 2004 for the no-build alternative portrays a skewed picture of future road use under the no-build alternative. Two linear regressions using traffic data for the period 1960-1972 (prior to paving to Canyon Creek) and the period 1972-1981 (paving completed to Canyon Creek) were used by FHWA to project the range of ADT for the no-build alternative and to conclude that road improvement (paving) would increase the ADT volume by only 71 vehicles over the no-build alternative in 20 years. The use of a regression line based on traffic data from a paved road to predict traffic on an unpaved gravel road appears to be an inappropriate use of this statistical function. This regression does not reflect the "dampening effect" an unpaved gravel road will have on the use of it. It would seem just as appropriate to conclude that the traffic volume will increase from 328 (derived

1. See revised "Section 4(f) Evaluation."
2. Mitigation measures with Alternative D are documented in this FEIS in the "Summary", "Environmental Consequences", and "Section 4(f) Evaluation" sections.
3. See revised traffic analysis in the "Purpose and Need for the Project" section.

The projected traffic and carrying capacity assigned to the existing road is significant in the type of economic analysis performed. On page 7, the economic analysis is based, in part, on benefit values foregone under Alternative A. In that analysis, a carrying capacity of 315 ADT was set for the existing gravel road and the demand above 315 ADT was treated as a "value foregone" by Alternative A. The actual dollar values of the value foregone were treated as benefits for Alternatives B, C, D, and E, and were subtracted from their costs to arrive at net present work cost (NPWC) for those alternatives (page A-17). Adjustment of the projected traffic for the no-build alternative will affect the results presented in the economic analysis. The final statement should indicate how the carrying capacity (315 ADT) of the existing road was computed.

On page 63, paragraph 1, differential development rates are projected for each alternative based on differential traffic projections. Yet the development rate remains the same for Alternatives B, C, D, and E, without an explanation. The nondifferential development rate given here is not consistent with the conclusion provided on page 75, the Irreversible or Irrecoverable Commitment of Resources by the Proposed Action. The final statement should demonstrate how the development rates were computed and the basis for the nondifferential rate between alternatives.

Page 65, paragraph 2, lists possible mitigation measures which have been suggested to reduce or eliminate indirect project effects, but acknowledges that it may be very difficult to obtain commitments to implement such measures, which require the concurrence and support of multiple jurisdictions and interests. This emphasizes, as we indicated above, the importance of additional coordinated planning in the North Fork area before selecting an alternative. The FWS, July 14, 1980, "jeopardy" biological opinion included the recommendation for the development of a joint plan that would provide for safety and general travel needs and that would not result in cumulative impacts that would jeopardize the continued existence of the grizzly bear and gray wolf. Such a joint plan should include consideration of the measures listed on page 65.

On page 69, paragraph 6, statements are made concerning the maximum anticipated growth in the North Fork and it is indicated that, without paving, growth is expected to be only slightly less. Because improved access with potential increases in the development rates on private land are major issues in this project, these statements should be supported in the final document with data, and the rationale behind them discussed.

The loss of 11 acres of critical whitetail deer winter range in the Big Creek area should be further discussed in the final statement relative to its effect on Glacier National Park.

The discussion of Air Quality on page 38 should recognize that Glacier National Park is a Class I area.

The concerns of the Montana Department of Fish and Game (MDFG) should be among the summaries on pages 45 and 46 of those opposed to paving the road.

We do not understand why the maintenance costs shown on page 80 for alternatives D and E should be 2½ to 3 times the maintenance cost of the existing conditions. The cost figures for Alternatives A and E are not consistent with the maintenance costs shown in the table on page 8. This should be clarified in the final statement.

from the lower regression using data collected prior to completion of paving to Canyon Creek) to 760 (projection by Montana Department of Highways (MDOH) if the road is paved); an increase of 432 vehicles per day. Further discussion is needed in the final statement.

Based on traffic growth observed on similar secondary roads in the State, MDOH estimates a 2 percent per year traffic growth for FH-61, and that the year 1976 is a realistic base year for projecting future traffic. Applying an approximate 2 percent per year growth rate (compounded), MDOH estimates an ADT of about 400 vehicles per day by 1998 if the road is left unpaved (letter of May 23, 1980, from Director, Office of Federal Highway Projects, FHWA to Area Manager, U.S. Fish and Wildlife Service). The upper regression line used by FHWA to predict the ADT of 689 vehicles in 2004 under the no-build alternative represents a four percent per year growth rate (compounded) double the growth rate estimated by MDOH. The final statement should clarify this point, and should further explain the methods used to project the traffic volumes for each alternative.

Page 5, paragraph 3, points out that the traffic counts during the summer months are much higher than reflected in the ADT data which have been adjusted to reflect more of a year-round average and, as such, accentuate the problems associated with a gravel road. Similarly, it should be pointed out that the adjusted ADT count "masks" the magnitude of impacts on wildlife occurring from concentrated seasonal human use. This is particularly significant to the grizzly bear which is inactive during the winter, but extremely active during the spring following den emergence, feeding heavily on the North Fork floodplain, and also in the fall prior to denning. Human use of the North Fork Valley, as demonstrated by the monthly traffic counts and its attendant impacts to wildlife, is thus concentrated during the same period that grizzly bears are actively using the North Fork Valley. Paving the road will not only increase the ADT during the summer months, but will also provide earlier access in the spring and extend the period of human use in the fall. This should be addressed in the final statement.

Page A-17 makes a key assumption that the traffic growth projections represent demand created by land and resource use activities. Hence, the economic analysis on page 7 focuses on how well, in economic terms, a particular alternative serves traffic demands of land use alternatives in the North Fork drainage. As a land management agency, the Forest Service can control the "traffic demand" through the land allocation assigned in their forest planning process and the level of activity authorized or conducted by the Forest Service. Thus, Forest Service management influences, to a large extent, the need for a paved road. In responding to the North Fork Cumulative Effects Study conducted by the Glacier View Ranger District, Flathead National Forest, FWS indicated that the question of whether or not the level of proposed activity in the North Fork will allow for the conservation and recovery of endangered and threatened species had not been answered by the study (letter of April 8, 1981, from Area Manager, U.S. Fish and Wildlife Service, to Forest Supervisor, Flathead National Forest). FWS suggested that an appropriate course of action by the Forest Service to facilitate the recovery and conservation of listed species in the North Fork would be to program forest activities at a level and manner which would reduce the need for road improvements. This suggestion should be addressed in the final statement.

3. See revised "Purpose and Need for the Project" section.
4. See revised "Purpose and Need for the Project" section. Forest activities in the Glacier View Ranger District of the Flathead National Forest are evaluated during the Forest planning process through to project implementation. All Forest activities are subject to the District's environmental evaluation process and to Section 7 endangered species consultation. The Forest Service indicates that these coordination and evaluation mechanisms are sufficient to ensure that the resources of North Fork are adequately protected.
5. See revised "Economic Analysis" in the appendix.
6. Differential development rates given on page 63 of the DEIS were derived from the ratio of the projected traffic increase with each build-alternative to the traffic projected with the no-build alternative (Alternative A). All build-alternatives have relatively similar traffic growth projections thus yielding essentially the same development rates relative to the no-build alternative. The conclusion on page 75 of the DEIS is that use and development would increase more with Alternative B or C than with Alternative A, D, or E but this difference is relatively minor.
7. Recent efforts toward jurisdictional coordination in the North Fork are addressed in the "Land Use/Natural Resources" sections. With adoption of Alternative D as the preferred and recommended alternative, no threatened or endangered species will be jeopardized.
8. See revised "Purpose and Need for the Project" section.
9. See revised "Wildlife Impacts" section. Coordination with U. S. Forest Service and National Park Service biologists indicates that the conversion of a maximum of 12.5 acres of winter range habitat to road use with Alternative D should not result in a significant net adverse effect on wildlife using this range. Improvement of adjacent portions of the winter range to increase its carrying capacity will help offset the effects of roadway encroachment.
10. See revised "Affected Environment-Air Quality" section.
11. The concerns of WDFWP are addressed in the "Land Use/Natural Resources" sections as well as in numerous other sections throughout the DEIS and FEIS.
12. See revised "Economic Analysis" in the appendix.

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3. See revised "Purpose and Need for the Project" section.
4. See revised "Purpose and Need for the Project" section. Forest activities in the Glacier View Ranger District of the Flathead National Forest are evaluated during the Forest planning process through to project implementation. All Forest activities are subject to the District's environmental evaluation process and to Section 7 endangered species consultation. The Forest Service indicates that these coordination and evaluation mechanisms are sufficient to ensure that the resources of North Fork are adequately protected.
5. See revised "Economic Analysis" in the appendix.
6. Differential development rates given on page 63 of the DEIS were derived from the ratio of the projected traffic increase with each build-alternative to the traffic projected with the no-build alternative (Alternative A). All build-alternatives have relatively similar traffic growth projections thus yielding essentially the same development rates relative to the no-build alternative. The conclusion on page 75 of the DEIS is that use and development would increase more with Alternative B or C than with Alternative A, D, or E but this difference is relatively minor.
7. Recent efforts toward jurisdictional coordination in the North Fork are addressed in the "Land Use/Natural Resources" sections. With adoption of Alternative D as the preferred and recommended alternative, no threatened or endangered species will be jeopardized.
8. See revised "Purpose and Need for the Project" section.
9. See revised "Wildlife Impacts" section. Coordination with U. S. Forest Service and National Park Service biologists indicates that the conversion of a maximum of 12.5 acres of winter range habitat to road use with Alternative D should not result in a significant net adverse effect on wildlife using this range. Improvement of adjacent portions of the winter range to increase its carrying capacity will help offset the effects of roadway encroachment.
10. See revised "Affected Environment-Air Quality" section.
11. The concerns of MDFWP are addressed in the "Land Use/Natural Resources" sections as well as in numerous other sections throughout the DEIS and FEIS.
12. See revised "Economic Analysis" in the appendix.

Mr. J. L. Budwig

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FISH AND WILDLIFE COORDINATION ACT COMMENTS

We strongly recommend that the proposed project be designed in such a manner that it will not cause the placement of fill in the North Fork of the Flathead River. In the event fill would need to be placed in the river, a Section 404 permit may be required from the Corps of Engineers. If so, the FWS will review and comment on the application for such a permit, pursuant to the Fish and Wildlife Coordination Act. FWS's review would center on the need for and alternatives to fill. FWS could concur, request the Corps of Engineers to stipulate conditions, or request denial of the permit based on information available at that time.

As soon as design-level plans are available, the FWS would be pleased to coordinate with you, the MDOH, the U.S. Forest Service, the Corps of Engineers, and the MDFG, to preclude delay and to ensure that any permit stipulations or conditions are understood and included in the final statement.

ENDANGERED SPECIES ACT COMMENTS

On January 22, 1982, the FHWA reinitiated formal consultation with FWS under Section 7 of the Endangered Species Act regarding the project and its effects on the grizzly bear and gray wolf. We understand that the Forest Service will now assume the primary responsibility for endangered species matters for this project, and that the time limit for completion of Section 7 consultations has been extended. We recommend that finalization of the environmental statement and selection of an alternative be held in abeyance until Section 7 consultations are complete, and that the results of such consultations be included in the final statement.

SUMMARY COMMENTS

The Department of the Interior would offer no objection to Section 4(f) approval of Alternates C, D, or E, providing adequate measures to minimize harm, as discussed above, are included in project plans. Please note, however, that this position relates only to the Section 4(f) matter and does not supercede any decision resulting from the Section 7 consultation.

The Department would, however, object to the selection and Section 4(f) approval of Alternate B and, by copy of this letter, are so advising the Assistant Secretary - Policy and International Affairs, US-DOT.

The whole North Fork situation is deserving of a more comprehensive outlook. We urge that the final statement and the decision on a choice of alternatives be based on wider considerations, which should include the cumulative effects of all proposals: road paving, gas/oil exploration, Canadian coal mining, growth potential, and similar concerns. Only through this kind of an approach to the management of this unique area, can rational answers to the questions raised by this proposal and others be made. The Department of the Interior would be pleased to cooperate with the Forest Service in such a planning effort. We suggest that the Forest Supervisor and the Park Superintendent pursue this further.

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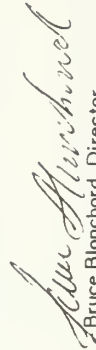
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Mr. J. L. Budwig

As this Department has a continuing interest in the project, we would be willing to cooperate and provide technical assistance in further project evaluation and assessment. For coordination on Section 4(f) and Glacier National Park matters, please contact the Compliance Officer, Rocky Mountain Regional Office, National Park Service, 655 Porfet Street, Post Office Box 25287, Denver, Colorado 80225 (phone: FTS 234-4942). For technical assistance concerning fish and wildlife resources, please consult the Area Manager, U.S. Fish and Wildlife Service, Federal Building, Room 3035, 316 North 26th Street, Billings, Montana 59101 (phone: FTS 585-6750).

Thank you for the opportunity to provide these comments.

Sincerely


Bruce Blanchard, Director
Environmental Project Review

cc: MT-DOH, Helena
USFS, Missoula
US-DOT, P-1

13. See revised "Floodplain" section.
14. Endangered species consultation has been concluded with adoption of Alternative D as the preferred and recommended alternative which will not jeopardize any threatened or endangered species.
15. Cumulative effects on threatened/endangered species of the North Fork have been addressed further in the "Endangered/Threatened Species Impacts" section of this document. With adoption of Alternative D as the preferred alternative, the cumulative effects of the project are not expected to be significantly different than that with the existing road. Recent interagency coordination to consider the cumulative effects of this project and other activities in the North Fork is discussed in the "Land Use/Natural Resources" sections.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

1960 LINCOLN STREET

DENVER, COLORADO 80295-0699

APR 7 1982

Ref: 8W0

Mr. J. L. Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

We have completed our review of your agency's draft environmental impact statement for "Reconstruction of Montana Forest Highway Route 61, Flathead County Route 486, Flathead County." This is obviously a difficult and highly controversial project and we commend your agency for candidly discussing the issues involved. Our comments are intended to help you and the other groups directly involved to make a final decision based on fact and a weighing of all factors.

Overall, it appears the decision to be made involves a trade-off between improved road access and impacts on the wildlife, fisheries and "undeveloped" nature of the North Fork Flathead River Valley. We note that the U.S. Fish and Wildlife Service and the Montana Department of Fish, Wildlife and Parks are opposed to your proposed Alternative C (a paved road) because of feared impacts to federally protected grizzly bears and grey wolves, to the outstanding fishery and river resources and to the presently wild nature of the North Fork Valley. We defer to the professionals in these agencies and their opinions on these matters, but can certainly agree that the wildland resources found in the area are unique and any potential threat to them deserves your careful consideration. We believe this view to be consistent with the classification of the North Fork under the Wild and Scenic Rivers Act, with the listing of the area's population of grizzly bears and wolves under the Rare and Endangered Species Act and with Montana's classification of the North Fork as a "Blue Ribbon" fishery.

Our specific comments are listed in the attachment. Our major points are centered around the long-term impacts of your preferred Alternative C and the possible advantages of a satisfactory alternative. We would suggest that Alternative E (elimination of hazardous areas) might well solve the present road's major problems and yet afford more protection to the area's unique resources.

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- 2 -

Again, our comments are meant to be constructive and to aid you in this important decision. According to EPA's rating system for draft EISs this statement is listed as ER-2 (environmental reservations - insufficient information). Our reasons for the ER-2 rating are discussed in the specific comments.

If you have any questions, please contact Mr. Gene Taylor in our Montana Office at FTS 585-5486.

Sincerely yours,


Steven J. Durham
Regional Administrator

Attachment

1. See revised "Purpose and Need for the Project" and "Alternatives" sections. The Forest Highway Program agencies have adopted Alternative D as the preferred alternative. Alternative D will not jeopardize any threatened/endangered species, will improve road structural and safety features, and will reduce runoff pollution from existing raw cut/fill slopes. Alternative D is not expected to have impacts significantly different from Alternative E.

ATTACHMENT

EPA Comments on DEIS Entitled:
"Reconstruction of Montana Forest Highway Route 61,
Flathead County Route 486, Flathead County"

Water Quality Impacts

1. We note that the "water quality of the North Fork is nationally known and the river is considered to be one of the cleanest, clearest, fastest-moving, cold water streams in the country" (p. 25).

2. Although the EIS offers no data, we estimate that the most serious water quality problem from the present road would be due to the severe and highly erosive road cuts which are very close to the river. We support efforts to correct this situation through reconstruction of these problem areas.

3. We strongly support the proposed erosion control plan listed on pages 49-51. This plan should be followed for all "build" alternatives.

4. Road dust, although a nuisance on the roadway, could not be considered a significant water quality impact as compared to road cuts and fills.

5. The main threats to water quality of the North Fork, as noted on page 26 of the DEIS, are related to activities such as road building, logging, mining, energy exploration, land clearing for subdivision, and human waste. We agree that "uncontrolled increase in these unnatural sources of pollutants or cumulative moderate increases in each source are likely to degrade the quality of North Fork waters in the near future." It thus seems clear that the role of the proposed project in water quality degradation will be related to the amount of the above type activities it will generate.

6. The EIS should better describe the potential water quality impacts of the proposed Cabin Creek open-pit coal mine. As you probably know, this project is a very real possibility, and if undertaken, will have a definite impact on the water quality of the North Fork. For this reason, the impacts of the coal mine should be considered in addition to those listed under comment No. 5.

7. Section 404 permits will very likely be needed for any of the "build" alternatives.

Traffic Generation and Secondary Impacts

1. It appears that the role of a paved road in generating secondary impacts is the central issue in this EIS. The DEIS predicts an increase in average daily traffic of 71 between the "nonbuild" alternative and your preferred paving alternative. This increase appears conservative for the following reasons:

(a) Paving this ten mile section will complete a paved scenic loop highway from West Glacier to Camas Junction, to Columbia Falls and back to West Glacier. This loop will undoubtedly prove popular to the over one million yearly visitors to Glacier Park. Coupled with the county's expressed intent to pave the road all the way to Polebridge (ref. page 20) it is apparent that a great deal more traffic will be generated up the North Fork Valley.

(b) On page 4 it is noted that one of the major influencing factors leading to a greatly increased amount of traffic on the present road was the reconstruction of the road to Canyon Creek. We believe completing a paved loop will continue this past trend.

(c) The Cabin Creek mine will have a work force of 450 (page 22) and probably a much larger force during the developmental stage. As stated on page 22, Kalispell and Columbia Falls may provide significant support for this mine. It is likely the mine will generate much more traffic southward, especially if there is a paved road all the way to Polebridge.

(d) The DEIS points out (p. 36) that the "gravel surface, roughness and narrowness of the North Fork road and the remoteness of the area discourages routine use of the road." It would seem logical to expect more use once these restraints are lifted.

Wild and Scenic River Classification and Flood Plain

1. Besides being the scene of two listed endangered species and a World Biosphere Reserve (p. 31) the North Fork Flathead River has been designated as "Recreational" and "Scenic" under the terms of the National Wild and Scenic Rivers Act. As pointed out in the DEIS (p. vii) the proposed paving alternative (Alt. C) will require the taking of some 29 acres from these classified lands. Apparently, this "taking" of classified lands requires a 4(f) evaluation under the terms of the Department of Transportation Act. Also, this 4(f) determination must show "that there is no feasible and prudent alternative to the use of land from a recreation area" (p. x). There are two points we would make about this issue:

(a) These riverside lands are some of the most valuable from a wildlife and river use point of view and their loss should be minimized;

(b) Alternative E, which eliminates the dangerous and most erosive segments of the present road takes only 12 of these designated acres. We suggest further examination of Alternative E may prove it to be a feasible and prudent alternative to the action proposed.

2. Existing raw cuts and fills along the road do contribute to degradation of water quality as well as cause road maintenance problems and costs. Road improvement (Alternative D) will help to stabilize most of these sloughing or eroding areas.
3. With construction of Alternative D, land use/development is not expected to increase significantly above that with the existing road (Alternative A) or that projected with Alternative E.
4. See the revised "Water Resources/Water Quality" and "Endangered/Threatened Species" sections of this document.
5. See the revised "Floodplain" section.
6. See the revised "Purpose and Need for the Project" and "Alternatives" sections.
7. See revised "Alternatives" section and "Section 4(f) Evaluation."

2. The DEIS lists the attributes of the 100-year flood plain and your obligation to minimize encroachment on them on page 51. The DEIS does not specifically evaluate the alternatives in terms of their relative encroachments on the flood plain, but an examination of the chart on page 80 leads the reviewer to conclude that Alternative E would have much less impact. Again, we suggest that Alternative E may be a practicable alternative to the much more extensive preferred project.

Economic Analysis

We only raise the economic issues because we believe certain points need to be clarified. These points are:

- (a) The chart on page 8 shows that savings to traffic associated with logging would be a major reason for proposing the paving alternative. However, since much of the current heavy logging is associated with a probable one time removal of beetle-killed timber, this logging activity may well drop off in the near future and thus lessen the major problem with the present road.
- (b) The costs of the various alternatives (page 80) lists construction and maintenance costs. Alternative E has much less construction cost but greater annual maintenance cost. It is not clear why Alternative A (no build) has maintenance costs of \$40,947 a year, while the other two alternatives, Alternatives D and E (also using a gravel surface) would cost \$124,817 and \$100,571 a year, respectively.
- (c) Because of the severe climate and its use by heavy trucks, the proposed paved road will need repairs and probable resurfacing on a periodic basis. Are these costs figured into these calculations?

Miscellaneous Comments

1. No data has been offered which shows that fugitive dust damages and degrades wildlife or pollutes live streams (ref. no. 7, page 81).
2. "Total suspended solids" shown on page 38 should be "total suspended particulates."
3. Another factor that may lead to increased pressure on the wildlife of this area will be extension of electricity to the Forest Service's Big Creek Work Center. This extension of power plus the Cabin Creek mine should be factored in to a calculation of cumulative impacts on the area.
4. EPA does not oppose provision of safe travel routes for the public. Our goal, however, would be to provide this needed safety in a manner most consistent with environmental protection.

8. See revised "Floodplain" section. Alternative E will encroach on about 1.5 acres of the upper margin of the river 100-year floodplain while Alternative C or Alternative D will encroach on about 2.0 acres.
9. See the revised "Purpose and Need for the Project" section and "Economic Analysis" in the appendix.
10. See the revised "Section 4(f) Evaluation."
11. See the revised "Affected Environment-Air Quality" section.
12. The Forest Service does not anticipate that electricity will be extended to the Big Creek Work Station or further within the foreseeable future. Electricity extension, the Cabin Creek mine, and other activities potentially contributing to cumulative impacts on the resources of the North Fork are addressed further in the "Endangered/Threatened Species Impacts" section of this document.



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SEATTLE DISTRICT, CORPS OF ENGINEERS
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SEATTLE, WASHINGTON 98124

NPSN-PL-ER

18 FEB 1982

J. L. Budwig, Division Engineer
Central Direct Federal Division
Federal Highway Administration
Post Office Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

We have reviewed the draft environmental impact statement (EIS) for the reconstruction of Montana Forest Highway Route 61, Flathead County Route 486, Flathead County, Montana, with respect to the U.S. Army Corps of Engineers' areas of responsibility for flood control, navigation, and regulatory functions.

Under Section 404 of the Clean Water Act, Department of the Army permits will be required for the work which is described on page 54 of the EIS.

Thank you for the opportunity to review this statement. If you have any questions regarding our comment, please contact Dr. Steven F. Dice, telephone (206) 764-3624, of my staff.

Sincerely,

William B. Hinz
NORMAN C. HINZ
Colonel, Corps of Engineers
District Engineer



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
REGIONAL/AREA OFFICE
EXECUTIVE TOWER - 1405 CURTIS STREET
DENVER, COLORADO 80202

REGION VIII

February 17, 1982

IN REPLY REFER TO:
8CQ

Mr. J. L. Budwig
Division Engineer
Federal Highway Administration
Post Office Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

Thank you for the opportunity to review and comment on the Section 4(f) evaluation/draft Environmental Impact Statement (EIS) for Reconstruction of Montana Forest Highway Route 61, Flathead County Route 486, Flathead County (portion).

Your draft EIS has been reviewed with specific consideration for the areas of responsibility assigned to the Department of Housing and Urban Development (HUD). This review considered the proposal's compatibility with local and regional comprehensive planning, impacts on urbanized areas, and any impacts the proposal might have on lands purchased with HUD Open Space funds. With the exception of the following, we find this document adequate for our purposes.

Our concern remains one of your assessing the availability and adequacy of housing which will be made necessary because of your proposal. As you know, there are both short and long term housing impacts associated with a major roadway improvement. The impacts for your proposal could be separated into temporary construction needs, and permanent needs of increased logging and recreational opportunities because of the proposed improvements.

If you have any questions regarding these comments, please contact Mr. Carroll F. Goodwin, Area Environmental Officer, at 837-3102.

Sincerely,

Robert J. Matuschek
Robert J. Matuschek
Director
Office of Regional Community
Planning and Development

AREA OFFICE
DENVER, COLORADO

1. Encroachments potentially requiring Section 404 permits are discussed in the revised "Floodplain" section.
2. These impacts have been discussed in the "Social and Economic Impacts" sections.

STATE OF MONTANA



DEPARTMENT OF

FISH AND GAME

Helena, MT 59620
March 15, 1982

Department of Transportation
Federal Highway Administration
Central Direct Federal Division
555 Zang St.
P. O. Box 25246
Denver, CO 80225

ATTENTION: R. E. Arensdorf

Gentlemen:

This correspondence contains this department's comments on the Draft EIS for Reconstruction of Montana Forest Highway Route 61, Flathead County Route 486, Flathead County (Portion).

Our comments on the effects of this project are included in the draft statement in six different items of correspondence:

1. Page xviii - xx, August 17, 1981, to FHWA
2. Page 111, April 24, 1980, to USF&W Service
3. Pages 117-122, March 3, 1980, to Flathead National Forest
4. Pages 128-129, September 6, 1979, to FHWA
5. Page 132, July 16, 1979, to FHWA
6. Page 134, August 19, 1976, to FHWA

In summary, this correspondence stresses the adverse impacts on big game winter habitat and threatened and endangered species such as the grizzly bear and wolf if the existing roadway is upgraded to a standard that would encourage development in the North Fork drainage. Additional pressures will be placed on the fragile Dolly Varden and westslope cutthroat trout fisheries which rely heavily on the North Fork for their survival. More visitors in the area, more summer and permanent residences, and more encroachment into the floodplain will increase both wildlife/human encounters and point and non-point pollution sources.

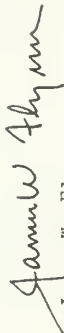
Department of Transportation
Page 2
March 15, 1982

It appears we have a continuing basic conflict between interests who would "open up" the North Fork to a variety of developments, as contrasted to the preservation of natural wild land resources which are rapidly disappearing. In the North Fork, we feel the wild character of the land should continue as long as natural processes allow. Piecemeal extension of the North Fork Road is contrary to that objective.

We strongly support the alternative of correcting existing safety problems only. Alternative E most closely approximates this approach. Both alternatives B and C would seriously impact our fish and wildlife resources and thus are not recommended by our agency.

We appreciate the opportunity to comment on this draft.

Sincerely,


James W. Flynn
Director

RWB/RM/nk

1. The Forest Highway Program agencies have adopted Alternative D as the preferred and recommended alternative. Alternative D does not jeopardize any threatened/endangered species and is not expected to significantly improve access or increase use above that with the existing road (Alternative A) or with Alternative E. Alternative D will improve the structural and safety features of the existing road. Project development through design and construction will continue to be coordinated with MDPWP to ensure that their concerns are addressed.

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
AIR QUALITY BUREAU



TED SCHWINDEN, GOVERNOR

COGSWELL BUILDING

STATE OF MONTANA

(406) 448-3454

HELENA, MONTANA 59620

July 16, 1981

J. L. Budwig
Division Engineer
U. S. Department of Transportation
Federal Highway Administration
Region Eight
555 Zang Street, Box 25246
Denver, CO 80225

Re: IFP

Dear Mr. Budwig:

We have reviewed the plans of the referenced project and find there should be no significant impacts on air quality from the construction of this project; in fact, paving will improve the air quality in this area, which is consistent with our State Implementation Plan.

However, precautions will be necessary to control dust during construction. Presently, we know of nothing existing or planned that would adversely affect this project in air quality considerations.

Sincerely,

Henry M. Custin
Henry M. Custin
Environmental Planner

AN EQUAL OPPORTUNITY EMPLOYER

Flathead County

Board of Commissioners

800 SOUTH MAIN STREET • KALISPELL, MONTANA 59901 • (406) 755-5300

December 7, 1982

Mr. J. L. Budwig
Division Engineer
U.S. Department of Transportation
555 Zang Street, Box 25246
Denver, Colorado 80225

Re: HFP-16

Dear Mr. Budwig:

The Board of County Commissioners have reviewed the preliminary impact statement and hereby agree to go ahead and accept maintenance responsibility for this road after it is constructed. If the jeopardy opinion is overturned, we would propose a hard topped surface on this road as originally planned.

Truly yours,

BOARD OF COUNTY COMMISSIONERS

Joan A. Geist
Joan A. Geist, Chairman

Melford R. Wollan
Melford R. Wollan, Member

Henry Oldenburg, Member

mq

No response necessary.

Flathead Drainage 208 Project

723 5TH AVE. EAST — ROOM 402

KALISPELL, MONTANA 59901

PHONE 755-5300 EXT. 228

January 26, 1982

Mr. J.L. Budwig, Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

The draft environmental impact statement for the proposal to reconstruct ten miles of Montana Forest Highway 61 appears to be one of the best environmental impact statements I have personally read in the last four years. I would like to congratulate the people who prepared this.

Within the realms of the environmental section, by and large the efforts are extremely commendable; however, there are a few, relatively minor, changes that we would like to see. First, someone other than the project engineer or the contractor should oversee the adequacy of the erosion-sediment control plan; possibly the Montana Department of Fish, Wildlife and Parks, the Flathead Conservation District, or even the Flathead City-County Board of Health. It is not reasonable to consider Montana Department of Health and Environmental Science because they are closing their Kalispell office effective July 1. Since Fish, Wildlife and Parks is intimately involved in the EIS and design phases of this project, they may be the best choice for on-site inspections. There are several possible entities; however, on-the-ground inspection by a local entity committed to environmental quality is strongly recommended. We heartily endorse the acquisition of local comment and review during the design stage to protect existing water quality and flows and, in particular, for involving the Flathead Conservation District who are intimately involved with the protection of stream water quality at the local level.

J. Budwig, 1/26/82, page 2.

A landscape/erosion-sediment control advisory team is mentioned that will be utilized during the design stage to review the entire project. Who will be on this advisory team? The make-up of this advisory team will be extremely critical. It is recommended that this team be active throughout the entire process of design and construction of this project since the landscape or the erosion-sediment control problem inherit with this particular project will be significant. Large amounts of time and effort have been spent to determine the current condition or water quality of the North Fork River and some considerable effort has been made to maintain that water quality, given increased use of the water resource and the areas around the stream. Significant attention by the public, both local and outside the area, can be expected during the construction of this project. We encourage you to take every precaution to minimize water quality impacts on the North Fork and it's tributaries.

Sincerely,



Marc M. Spratt
Director

MMS:dc

1. The adequacy of the project erosion control plan and its implementation must remain the responsibility of the FHWA project engineer who is responsible for all aspects of construction. The MDFWP, Flathead Conservation District, and MDHES have oversight authorities which allow them to monitor the effectiveness of the erosion control/water quality maintenance efforts on this project. The project engineer will coordinate with the MDFWP and Flathead Conservation District in the development of this plan and will advise these agencies in advance of project activities which could affect the water quality and fisheries of the North Fork.
2. The L/ECAT team will be made up of revegetation, erosion control, and landscaping specialists from the Forest Service, FHWA, Montana Department of Highways, and MDFWP. This team will be responsible for making recommendations to the project design engineer on revegetation, erosion control, and landscaping measures. Such measures will be developed in coordination with the Flathead Conservation District and National Park Service. The team will be active during project design which will probably occur in stages as design and construction proceed over several years and project segments. The Forest Highway Program agencies believe that a well-designed erosion control/revegetation plan will protect the water quality and fishery resources of the North Fork.



Flathead Conservation District

15 WEST HILSERV DRIVE KALISPELL, MT 59901 PHONE 254-6242

February 11, 1982

U.S. Department of Transportation
Federal Highway Administration
Central Direct Federal Division
555 Zang Street, P.O. Box 25246
Denver, Colorado 80225

RE: HFP, January 22, 1982

Dear Mr. Budwig,

The Board of Supervisors of the Flathead Conservation District reviewed your proposals for improvements on the North Fork Flathead River Road (Mt. Forest Hwy. 61 & Flathead County Route 486).

All alternatives were discussed and appraised. After considerable deliberation, it was our opinion to endorse "Alternative D" which would be to rebuild the road to a 35 MPH design speed with a gravel surface closely following the existing alignment.

We strongly feel that a paved road will encourage excessive speed. Other than constantly patrolling the area, there is no other reasonable method of slowing traffic under optimum conditions.

The Flathead Conservation District believes development should be encouraged near city centers and the installation of a high quality road will encourage further fragmentation of the area. Valuable timber lands will be subdivided and there will be more loss of the already small amount of farmland in the remote North Fork valley. Costs of community services demands of the new residents will not begin to be paid to the county by the landowners - resulting in higher taxes for the county in general.

A paved surface will mean greater speeds with more human access and impact which will significantly harm the wildlife in the area. Fisheries would be adversely impacted due to more individuals having easier access to the areas.

For these reasons, we endorse "Alternative D". We appreciate the opportunity of reviewing your recommendations and alternatives and hope you will keep us abreast of developments as they occur.

Sincerely,

Francis D. Graham

Francis D. Graham
Chairman

CONSERVATION DEVELOPMENT SELF ADMINISTRATION

1. The Forest Highway Program agencies have now adopted Alternative D as the preferred and recommended alternative. Project development will continue to be coordinated with the Flathead Conservation District.

February 2, 1982

University of Montana
Missoula, Montana 59812

Mr. J. L. Budwig
Division Engineer, C.D.F.D.
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

The Border Grizzly Project has expressed many concerns to you about the grizzly, and has provided data for the grizzly analysis, pages 33 and 34, of the draft EIS. I am pleased to see good use made of data we worked so hard to obtain. My remaining concerns, in reference to the draft EIS, are as follows:

1. Minor errors: Line 20-21, page 33, should read (usually in * productive habitat areas of major flood plains)
: Last line, page 33, at end should read, "...that some bears..."

2. Overall, neither the county or the EIS seem to ever comprehend the full nature of the long-term concern for grizzlies. Each new impact affects the grizzlies, the effects are cumulative (to the bear), and people cannot look at each impact in isolation. The main concern of biologists is that the highway improvement is a major impact added to existing impacts, and it is likely to encourage further impacts. I don't see that reflected yet in the EIS.

3. The social and economic section (p. 42) should contain references to the economic importance of keeping bears (even though perhaps low, it is renewable, and will increase in value), and it should note the cultural relationships of bears to the native peoples.

4. The vegetation section, pages 55-56, should stress the great importance of the vegetation to grizzlies, especially the riparian and flood plain areas; you have the data on this. Why wasn't it put in?

5. On page vi, third paragraph, lines 2 and 3, you state, "The paved alternatives...will (make) access....faster, more pleasant, and safer. The BGP, FWS, and FWP have noted many times that that fact

* The highest grizzly density we know of in the drainage is the Ketchikan drainage, outside Glacier National Park.

Equal Opportunity in Education and Employment

(easier access) will be detrimental to the grizzly. On page 60, under Threatened and Endangered Species, you note that the county fully plans to pave the road, Camas to Polebridge, without regard to the grizzly, and then, in the same section, you argue for paved Alternate C as compatible with the grizzly. Your crystal ball must be better than the data and professional judgment of the wildlife people.

6. The discussion on mitigation (pages 64 and 65) should include other actions.

- (1) A thorough and beneficial outline of grizzly habitat management in the FNF Forest Plan.
- (2) Conduct constant monitoring of changes in the grizzly habitat components, in man-caused impacts, and in any changes in grizzly habitat use.
- (3) Sponsor research to improve our mitigation techniques, especially for major and new impacts as they are proposed (subdivisions, seismic activity, drilling, etc.).
- (4) Allow mitigation as compensation as well as to reduce or eliminate adverse impacts (page 65). The plain fact is, some major impacts are inevitable, or will occur outside federal jurisdiction, and must be compensated for.

Thank you for the opportunity to comment further on the EIS.

Respectfully,

Chas. Jonkel
Chas. Jonkel, Director
University of Montana
Border Grizzly Project

cc: FWS
FWP

1. See revised "Endangered/Threatened Species" section.
2. The DEIS cited many of the cumulative impacts of other activities/developments in the North Fork. Cumulative impacts are addressed further in the FEIS. The Forest Highway Program agencies have taken these effects into consideration along with interagency and public comment in adopting Alternative D as the preferred alternative.
3. The importance of the North Fork vegetation/habitat to grizzlies (particularly in floodplain and riparian areas) was discussed in the DEIS on pages 27, 32, 33, 51, 58, 126, and A-3. Similar discussions are included in the FEIS.
4. The Forest Highway Program agencies have now adopted Alternative D as the preferred alternative for this project. Alternative D is not expected to significantly improve access above that with the existing road or with Alternative E. The Flathead County Commission indicates that the County does not intend to pave the road north of Camas in the foreseeable future due to funding constraints.
5. The U. S. Forest Service addresses endangered/threatened species management in the Flathead National Forest Plan which is currently being revised. All Forest activities are subject to Section 7 endangered species consultation to ensure that such species are not jeopardized.

The U. S. Fish and Wildlife Service has determined that Alternative D will not jeopardize any threatened or endangered species.

March 25, 1982

-2-

Mr Budwig

Wildlife-Wildlands Institute
5200 Upper Miller Creek Road
Missoula, Montana 59803
(406) 251-3867
March 25, 1982

Mr. J. L. Budwig, Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

We have just finished reading the Federal Highway Administration Draft Environmental Impact Statement (DEIS) concerning a proposal to reconstruct approximately ten miles of Montana Forest Highway 61 between Canyon and Camas creeks. Frankly, we find it amazing that FHWA continues to push ahead with this project when, with the notable exception of a Flathead County Commissioner and the Glacier View Ranger District, USDA-FS, all salient and concerned parties and agencies are in opposition to the road improvement. Apparently, many of the local residents who could benefit economically from the road are, nevertheless, opposed to it.

On page one of the DEIS statement of need and purpose, facilitation of logging activity and safety of travel are cited as a major concern. These, along with reduction in cost of road maintenance, represent the positive values attendant to paving the highway. Some of the most important negative aspects of the project have been accurately presented by professionals representing the USDI Fish and Wildlife Service, the USDA National Park Service and the Montana Department of Fish, Wildlife and Parks. These agencies, your most qualified sources for biological opinion, have rendered a jeopardy opinion and are uniformly in opposition to a paved road. On the basis of many years as wildlife biologists and familiarity with the area in question and its wildlife species, we support completely the findings of these agencies. Paving the North Fork road would directly impair important wintering range for elk, deer and moose. It would further compromise the threatened grizzly bear and endangered gray wolf populations and place undue pressure on sensitive fisheries resources. In short, the paving of Forest Highway 61 would initiate a progressive deterioration of the natural values of the North Fork. This is definitely not in keeping with the basic purpose of the Forest Highway Program as expressed on page one of the DEIS, nor is it compatible with the USDA-Forest Service responsibility for administration of the Wild, Scenic and Recreation River designation of the North Fork

of the Flathead. Perhaps even more to the point is the overwhelming evidence that the majority of the private landowners in the area are opposed to the highway construction project.

Included in the DEIS are numerous mitigating mechanisms intended to answer the dissent of the agencies officially charged with protection of wildlife and their habitat. These mechanisms are inadequate guarantees against a destruction of natural values repeated all too often in recent years. The overwhelming adverse ecological effects attendant to land development that will follow major highway improvement are unmitigable. Denial of FHWA responsibility for prospective development and its impacts (DEIS page 57) is inadequate as a solution. Therefore, the FHWA should heed the recommendations of those agencies that are, by law, responsible for protecting our resources from exactly those kinds of impacts.

We strongly support improvement of Montana Forest Highway 61, but only at those places where it is necessary for reasons of driver safety. The highway should not be paved. It should carry a maximum speed limit of 35 mph which logging truck drivers should be strongly encouraged to observe; this would definitely reduce wear-and-tear on the roadbed and make visitor and resident travel much safer.

Your consideration of our comments is appreciated.

Most sincerely,

Dr. John J. Craighead
Director

John A. Mitchell
Dr. John A. Mitchell
Assistant Director

cc: Mr. Richard C. Call
Mr. Hank Fisher
Mr. Thomas Hay
Dr. Loren Kreck
Mr. Joe Schellenberger
Mr. Wally Steucke

1. The Forest Highway Program agencies have now adopted Alternative D as the preferred alternative. Mitigation measures to reduce the impact of road improvement are addressed in the "Summary" and respective "Environmental Consequences" sections.

134 River Pines Rd.
Missoula, Montana 59801

March 16, 1982

Mr. J. L. Budwig
Division Engineer
Central District Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

We appreciate this opportunity to comment on the Draft EIS for reconstruction of Montana Forest Highway Route 61 between Canyon Creek and Camas Junction. The Montana Chapter of the American Fisheries Society believes it is important to offer our expertise when a proposed project may impact an important fishery resource.

The Montana Department of Fish, Wildlife and Parks has stated their position in the Draft EIS. They oppose the paving of the road any further north. The concerns they have expressed are valid and the EIS does little to answer those concerns. The Montana Chapter of AFS shares those concerns and supports the Department's recommendations.

In reviewing the Draft EIS, we question your traffic projections. You showed a substantial increase in average daily traffic (ADT) after paving of the road to Canyon Creek was completed in 1972 (represented by an increased slope in your regression line shown on page 6 of the Draft). Your regression line does not show any additional increase in ADT projected after paving the additional proposed 10 miles under alternatives 8 and C. We feel ADT would again increase markedly after paving the proposed section and your regression line should predict considerably higher ADT.

The significance of this increased traffic projection has been addressed by the MDFWP, whose concerns are directly related to the increased use of the North Fork drainage by recreationists and developers. The fact that paving this section of road would increase the use of the area due to easier access seems logical as people tend to travel a paved road more frequently than an unpaved road. Greater access will result in an unacceptable increase on the fishery resource, as well as increase the opportunity for poaching. The adfluvial bull trout population supports a trophy fishery recognized statewide. The adult bull trout is extremely vulnerable to anglers on their annual migration up the North Fork. If increased access is provided to this area, the only recourse the MDFWP has is to restrict harvest through more regulations. This would undoubtedly mean shorter seasons as the limits have already been reduced to one (1) fish per day. This leads to less fishing opportunity for the Montana sportsman as well as placing a native species of trout in possible jeopardy.

We determined that alternative E is the most desirable alternative to meet both the concerns for safety while protecting unique and valuable natural resources. Under this alternative the present sediment problem caused by the eroding hill slopes would be solved, the road would be safer, and the "remote" nature of the North Fork Drainage would be preserved.

Sincerely,



Greg Munther
President, Montana Chapter AFS

1. The Forest Highway Program agencies have now adopted Alternative D as the preferred alternative. Alternative D is not expected to improve access or increase use significantly above that with the existing road (Alternative A) or with Alternative E.
2. See revised traffic discussion in the "Purpose and Need for the Project" section.



AMERICAN WILDERNESS ALLIANCE
4260 East Evans Avenue • Suite 8 • Denver, Colorado 80222
(303) 758-5018

March 4, 1982

Mr. J. L. Rudwig, Division Engineer
Federal Highway Administration
P.O. Box 25246
Denver, CO 80225

Dear Mr. Budwig:

This is to provide for the official record our comments on the proposed project and draft EIS to pave the upper and lower North Fork of the Flathead roads (Montana Forest Highway 61).

The American Wilderness Alliance is a Western-based national non-profit organization, dedicated primarily to promoting the conservation and wise use of the nation's decreasing wilderness, wildlife habitat and wild river resources.

We and most of our Montana members are well acquainted with the area and road sites involved. As a native Montanan who formerly lived in the Flathead area, I am familiar with the road and the region it traverses.

The Alliance and its Montana members strongly support Alternative E for the lower North Fork road. Alternative E provides for localized improvements where needed but without paving. Our position is based on the following factors:

1. Paving would involve considerable widening and straightening, with encroachment on the North Fork of the Flathead and riparian habitats.
2. The U. S. Fish and Wildlife Service has issued an opinion that the grizzly bear and wolf--threatened and endangered species of wildlife--would be jeopardized by the resulting affects of the paving project and associated construction. Thus, the draft EIS may be in violation of the Endangered Species Act.
3. The proposed project would bring increased numbers of citizens and traffic to the North Fork area on the western border of Glacier National Park, creating increased enforcement problems for the National Park Service and adversely affecting the grizzly bear, wolf, elk, moose and other wilderness-associated wildlife that now migrate freely between national forest lands along the North Fork of the Flathead River.

"We Don't Inherit the Earth from our Ancestors. We Borrow It from our Children."

BOARD OF TRUSTEES

Sally A. Ranney
President
Nancy J. Borra
Vice President
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Director at Large

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Executive Director

Clifton R. Merritt

Editorial Offices

Wild America
William A. Schneider
Editor

324 Fuller

Helena, Montana 59601

Mr. J. L. Budwig, Division Engineer
March 4, 1982
Page Two

4. The increased citizen use of the area as a result of the proposed project would place substantially increased fishing pressure on the native cutthroat and Dolly Varden trout, at a time when the Montana Fish and Game Department and conservation organizations are striving valiantly to maintain and enhance these vanishing species. In this connection, it should be noted that the west-slope cutthroat is on the Endangered Species list. It does not prosper under heavy roadside fishing pressure.

5. The proposed project would take and destroy or alter irreplaceable lands along the North Fork of the Flathead River which have long served the public for recreational purposes. The North Fork is a component of the National Wild and Scenic Rivers System, and federal transportation laws require protection of such rivers.

We therefore believe that Alternative E is the only "reasonable and prudent" alternative and respectfully urge its adoption by the Federal Highway Administration.

Sincerely,

Clifton R. Merritt
Executive Director

CRM:CS

1. The Forest Highway Program agencies have adopted Alternative D as the preferred alternative for this project. Alternative D would not improve access or increase use or have impacts significantly different from that with the existing road (Alternative A) or with Alternative E.

The westslope cutthroat trout is not listed as endangered or threatened according to the criteria of the Endangered Species Act.
2. See revised "Section 4(f) Evaluation."

THE WILDERNESS SOCIETY

Northern Rockies Regional Office
107 West Lawrence, P. O. Box 1184, Helena, Montana 59601 (406)443-7350
March 31, 1982

Mr. J. L. Budwig, Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 2546
Denver, CO 80225

Dear Mr. Budwig:

This letter is in response to the draft Environmental Statement for Reconstruction of Montana Forest Highway Route 61, Flathead County Route 486, Flathead County, Montana.

For a number of years The Wilderness Society has been working closely with local conservationists and land management agencies in an effort to protect the North Fork Valley from the myriad of resource development-related impacts which it is now experiencing. The North Fork Valley is wild, remote and unspoiled precisely because of its current unpaved road access. The area has a rich diversity of wildlife found in few areas of the United States. It forms the western edge of Glacier National Park and contains the North Fork of the Flathead Wild and Scenic River Corridor. Indeed, the public resource values in the North Fork Valley are of national and international significance.

Unfortunately, these superlative values that make the North Fork unique are severely threatened by the FHWA proposal to pave the North Fork Road from Canyon Creek to the Camas Creek Bridge. The recommended Alternative "C" for a two-lane paved highway with a posted 35 mile per hour speed limit is totally unacceptable as well as economically and environmentally destructive.

With the possibility of a large coal mine being developed at Cabin Creek in British Columbia, the paving of the North Fork Road could well be the growth trigger that could set off large-scale subdivision and other spin-off developments in the North Fork Valley. In addition, a wide variety of wildlife, such as elk, deer, moose and bear, utilize the essential winter and spring forage in the privately-owned bottom lands in the North Fork Valley. The Fish and Wildlife Service has indicated that the proposed road improvement project in conjunction with other developments are "likely to jeopardize the continued existence of the grizzly and the gray wolf." As a result, Glacier Park, the Fish & Wildlife Service, the Montana Department of Fish, Wildlife and Parks and the Border Grizzly Project all support Alternative "E" for spot improvements at bad locations with no paving.

It is understandable why Glacier Park has assumed this position. Glacier has been identified by the Department of Interior as the most threatened National Park in their recent State of the Parks Report.



"In wilderness is the preservation of the world." - Thoreau

Mr. J. L. Budwig
page 2

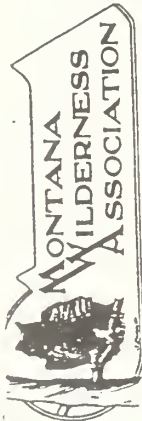
The Environmental Statement fails to demonstrate a need for this potentially damaging project. Safety figures provided in the statement show that there are actually fewer accidents involving injuries in the unpaved section than in the adjacent improved sections.

The Wilderness Society strongly opposes the proposed Alternative. We urge that either Alternative "A" or "E" be selected. Please include this letter in the official record of public comment. I would appreciate being kept advised on any further decisions made with regard to this project. Thank you for your consideration of our concerns.

Sincerely,
Bill Cunningham
Bill Cunningham
Regional Representative

EC:dw

1. The cumulative impacts of road improvement and other activities/development in the North Fork have been discussed further in this document. Taking those concerns (identified in the USFWS biological opinion) into account, the Forest Highway Program agencies now recommend Alternative D as the preferred alternative. Alternative D is not expected to improve access, increase use, or have cumulative impacts significantly different from the existing road (Alternative A) or from Alternative E.
2. See the revised "Purpose and Need for the Project" section.



Mr J L Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
Box 25246
Denver, Colorado 80225

march 17, 1982
John O'Gatchell
Flathead Chapter
Montana Wilderness Association
Box 1612
Columbia Falls, Mt 59912

Dear Mr Budwig,

I am speaking tonight in support of the North Fork River Valley, on behalf of the Montana Wilderness Association.

After careful review we find the DEIS to be a self-serving document, selecting a preferred alternative on the basis of opinion and speculation. It is intended to justify a project of questionable benefit but unquestionable costs to the wild resources of the North Fork.

The scoping process was inadequate. This step should identify issues of concern and formulate a reasonable range of alternatives. It was suggested that a scoping meeting would be held in Columbia Falls, but it was not and perhaps as a result the draft does not contain a reasonable range of alternatives. One alternative that should be included is blading and regular dust coating of the existing road.

The DEIS creates the illusion that the preferred alternative will result in a safer roadway.

"The paved alternatives will provide a facility that is easier to drive making access... faster, more pleasant and safer." page 6 deis

Careful examination of the chart provided on page 7 shows that the rate of accidents involving injury is actually 31% higher on the paved section of the N F road than on the unpaved section in question. Perhaps because of the 'unpleasantness' of the unpaved road, it rates as significantly safer than similar routes across the state and nation. Page 61 also provides further reason for this difference

"Paved improvement will increase average vehicle speed; effective enforcement of the speed limit may not be economically feasible..."

Apparently the FHA and the Forest Service are willing to opt for convenience rather than safety.

In their DEIS, the FHA offers some contrived statistics based on unreliable traffic projections, to 'prove' that paving will not affect development of the North Fork. This allows them to dodge consideration of this crucial question. Any realtor or landowner can tell you that the type of access directly affects property values and development.

The former supervisor of the Bitterroot Nat'l Forest stated that vehicle use in the East Fork of the Bitterroot increased by a factor of ten after they improved access by paving. Another example comes from a biologist formerly with the Powell Creek Ranger District. He said that the quality of fishing and hunting declined almost overnight when they paved the road over Lolo and opened up the Lochsa country. By the way now they want to widen it to accommodate heavy truck traffic.

Add these easily anticipated increases to ominous developments north of the border, and you have a potential powder keg of explosive development in the North Fork. The DEIS dismisses consideration of Canadian coal miners using the North Fork by telling us that they'd rather drive 60 miles to Fernie than 6 miles to Moose City.

Accelerated development in the North Fork, stimulated by the creation of a highway and developments in Canada will seriously threaten the quality of waters flowing from the North Fork. These cannot be so easily resolved as the alleged menace of "fugitive dust." The first paragraph on page 26 points this out, but does not seem to be considered in the selection of a preferred alternative.

Accelerated development resulting from highway paving will directly displace wildlife from habitat essential to their survival. Elk, deer, bear, and moose will be pushed off their spring and winter range. Elk will lose calving grounds, the Grizzly critical spring and fall forage. New settlers will complain of 'problem bears' in their garbage, others will simply follow Charlie Green's advice and shoot, shovel, and shut-up. Accelerating development will likely destroy a last opportunity for the recovery of the Gray Wolf in the United States.

The Montana Dept of Fish, Wildlife, and Parks tells us that poaching will increase dramatically with paving. The highway itself will use up 29 acres of the River corridor the Forest Service is supposed to protect and 11 acres of the winter range at Big Creek. Increased speeds and vehicle use through the winter range will no doubt increase road kills and the likelihood of people being injured or killed in such accidents.

1. The scoping process, as described in the "Consultation and Coordination" section, was extensive. It included a widely distributed letter of intent to improve the road, two interagency meetings, two social/economic/environmental (SEE) study team meetings, an endangered species task force meeting, three public meetings including one at Columbia Falls, a widely distributed newsletter, a widely distributed DEIS and notice of its availability, and a public hearing.
 2. See revised "Purpose and Need for the Project" and "Alternatives" sections.
 3. The cumulative impacts of road improvement and other activities/developments in the North Fork have been addressed further in this document. Taking these concerns (as identified in the USFWS biological opinion) into account, the Forest Highway Program agencies have adopted Alternative D as the preferred alternative. Alternative D is not expected to improve access, increase use, or have cumulative impacts significantly different from the existing road (Alternative A) or from Alternative E.
- Interagency coordination for North Fork activities is addressed in the "Land Use/Natural Resources" sections.

Page three

There's little evidence this paving is truly needed, no evidence it will improve safety, and a great deal of evidence to suggest it would pave the way for the selling of the North Fork. If we buy this type of irresponsible development, we are laying the groundwork for problems from which the North Fork Valley and Glacier Park will never recover. I sincerely hope we're not willing to sacrifice careful stewardship of Glacier Nat'l Park, the waters of the North Fork, our wildlife heritage, for a pleasant driving experience.

In summary, we support Alternative A, noting that regular blading and dust abatement should also be carried out. Some spot improvements would be acceptable if it was demonstrated that they will significantly improve safety.

We also believe GNP Superintendent Haraden's proposal for a Joint Managing Commission is an excellent one and long overdue. With coal companies, developers, and the FHA hammering at the gates of the North Fork, there's no time to delay. It is a reasonable proposal and should come before any commitment to paving. Thank you for the opportunity to comment.

Sincerely,

John Gatchell
Chairman,
Flathead Chapter
Montana Wilderness Association

2. See the revised "Purpose and Need for the Project" and "Alternatives" sections.
3. The cumulative impacts of road improvement and other activities/developments in the North Fork have been addressed further in this document. Taking these concerns (as identified in the USFWS biological opinion) into account, the Forest Highway Program agencies have adopted Alternative D as the preferred alternative. Alternative D is not expected to improve access, increase use, or have cumulative impacts significantly different from the existing road (Alternative A) or from Alternative E.

Interagency coordination for North Fork activities is addressed in the "Land Use/Natural Resources" sections.

Defenders OF WILDLIFE

Mr. J.L. Budwig, Division Engineer
Federal Highway Administration
Denver, Colorado 80225

March 29, 1982

Dear Mr. Budwig,

Please consider these comments of Defenders of Wildlife, a national conservation organization, regarding the reconstruction of Montana Forest Highway Route 61, commonly known as the North Fork Road.

The reconstruction of the North Fork Road presents a unique challenge to the Federal Highway Administration, as there are a multitude of considerations not usually encountered in a standard highway construction project. First of all, the road runs along the border of Glacier National Park, through an area which the National Park Service is trying to manage for its wilderness qualities. Second, the road passes through a wild and scenic river corridor, and thus the potential exists for serious impacts on the river. Finally, and perhaps most problematically, the road passes through the critical habitat of at least two threatened or endangered species: the grizzly bear, which biologists have recorded in denser numbers than anywhere else in the lower 48; and the northern gray wolf, which has its best opportunity for recovery in Montana's North Fork drainage.

It would be pointless for me to reiterate the near-unanimous conclusion of the various biologists who have commented on the impacts of a paved road up the North Fork. The larger issues involve the overall character of the North Fork Valley, and how a paved road would change its semi-primitive condition, to the detriment of many wildlife species. The paving of the road is clearly the action that will facilitate further developments that will not only jeopardize the grizzly and the wolf, but will also change recreational patterns and place added stress on the park.

The grizzly bear has already been eliminated from 98% of its original range, in much the same fashion that it could happen now; only the remoteness of this area has protected it until now. The U.S. Fish and Wildlife Service has clearly stated in its biological opinion that paving the road for 50 mph traffic will jeopardize these two species because of the cumulative impacts. It seems highly likely that a 35 mph paved road--the preferred alternative--will have the same impacts. The FWS has suggested a gravel road with spot improvements, and this seems like a reasonable compromise. It's unclear to me why the Federal Highway Administration did not make this the preferred alternative in the DEIS, when it knew a paved highway was unacceptable from a wildlife standpoint.

According to the Wolf Ecology Project, the North Fork region offers the best opportunities for the recovery of the northern gray wolf of any location in its range. Since there currently are very few livestock operations, the conflicts are slight; but a paved road would bring the people and developments that are basically in conflict with wolf recovery.

Federal agencies should also keep in mind that paving the North Fork Road would severely limit the mitigation options for other developmental proposals. Public lands would be forced to compensate for greater development on private lands. To the extent it's clear the Forest Service can adequately handle its forest management without a paved road, it's clearly advantageous from a timber perspective to leave the road unpaved.

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As you know, Glacier National Park was determined by the Dept. of the Interior to be the nation's most endangered national park, mainly because of such exterior threats as the Cabin Creek coal mine (proposed), the proposed North End Salvage Sales, the proposed paved road, as well as increased oil and gas exploration. From a wildlife perspective, Glacier National Park doesn't have the diversity of habitat necessary to sustain many of its key wildlife species. Elk, deer, moose and bear are dependent on lands outside the park.

A paved road would also have a decidedly negative impact on the wild and scenic river corridor, promoting more use of a river which according to the Forest Service is nearing capacity. I am the author of A Floater's Guide to Montana, a popular book about floating Montana rivers published in 1979, and I mention in the book that paving the North Fork Road would seriously diminish the wild and scenic qualities of the river.

It's also unclear to me whether the Federal Highway Administration is complying with Section 4(f) of the Dept. of Transportation Act. The act seems to direct your agency to include "all possible planning to minimize harm", and not to take excessive lands if a reasonable and prudent alternative exists. It seems clear that Alternative E is the alternative which minimizes harm--in a reasonable and prudent fashion.

This would not be the first gravel road which the Federal Highway Administration has constructed. A lower standard design was chosen in Colorado (Cottonwood Canyon) when the public insisted that a paved road would diminish the scenic qualities of the area. Certainly a gravel road is a feasible option, and one the FHWA should seriously consider. While maintenance cost might be somewhat higher, a paved road will cost more in terms of need for enforcement and more services.

The issue of need is the final item I'll address. It's unclear to me, given that we're in a time of short federal money, why an agency would choose to spend \$5 million to pave one of the lightest-used highways in the United States. The North Fork Road is a hundred miles from any major population center, and the road itself goes nowhere. It seems senseless to build an expensive, dead-end road in the middle of an expanse of wild country. I travel Montana's roads enough to know there are many other state and federal routes that need this money far more.

In conclusion, Defenders of Wildlife supports Alternative E, the gravel road with spot improvements.

Thank you.

Sincerely,

cc: Senator Max Baucus
Senator John Melcher
Rep. Pat Williams
Gov. Ted Schwinden

Hank Fischer
Montana representative

HANK FISCHER, Montanans for
Defenders of Wildlife
1534 Helena Ave.
Missoula, MT 59801

1. See responses to previous similar letters.
2. See the revised "Section 4(f) Evaluation."
3. See the revised "Purpose and Need for the Project" section.



BOARD OF TRUSTEES
OFFICE: CLERK
Chairman, Board of Trustees and
Secretary, National Park Service
1900 Pennsylvania Avenue, N.W.
Washington, D.C. 20540
J.L. Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

March 31, 1982

RE: DEIS for Reconstruction of Montana Forest Highway
Route 61, FHWA-FPMT-EIS-82-1-D

Dear Mr. Budwig:

The National Parks & Conservation Association, a national conservation organization of 35,000 members, opposes the preferred alternative, C, for the reconstruction of the North Fork road because it will unnecessarily sacrifice the outstanding and increasingly rare resources and wilderness character of nearby Glacier National Park for the convenience of high speed travel. Furthermore, we find that the proposed alternative fails to comply with both the Endangered Species Act and the Department of Transportation Act.

We do appreciate the need for some improvement of the North Fork road, but believe that Alternative E will provide the requisite safety and surface improvements without seriously threatening the resources of the area and the wilderness of the adjoining park lands.

Glacier National Park is probably the wildest national park in the lower 48 states, but unfortunately, that distinction is quickly disappearing. The primary threat to the national park, as identified in the NPS State of the Parks Report to Congress, May 1980, is development on lands adjacent to the park's boundaries. Of course, any action to upgrade access to the lands surrounding the park, will encourage the encroachment of development upon the park.

The proposed upgrading for the North Fork road as described in Alternative C, will not only facilitate urban and development encroachment upon the park, but will greatly increase visitor access to the North Fork

J.L. Budwig
March 31, 1982
Page Two

area of the park because it will conveniently create a high-standard loop road with National Park Road 8 (Camas Road) and U.S. Highway 2. The North Fork area of the park is proposed for wilderness designation and is being managed as such by the National Park Service. This means maintaining a low standard of access to the North Fork area. For the preservation of the wilderness character of the North Fork area of the park, the North Fork road should not be upgraded so that it will create easy access to this de facto wilderness area of the park.

The most obvious resource problems that will occur as a result of increased access and development in this area will be the disturbance of the grizzly and gray wolf populations. These once-widespread species have been forced by man to retreat to the most remote areas of the lower 48 states, such as Glacier National Park. Although it is very clear that these species have little tolerance for the presence of man, intrusions into their last substantial habitat continue. The proposed improvement of the North Fork road is such an intrusion. Consequently, we agree with the U.S. Fish and Wildlife Service jeopardy opinion and believe that implementation of Alternative C would be in violation of Section 7 of the Endangered Species Act.

For the grizzly, its Glacier population is one of only two viable populations left in the lower 48 states. Glacier's grizzlies do not confine their activities to the park; however, and the North Fork road area has been identified as an important travel corridor between the park's Apgar mountains and the Smoky range in Flathead National Forest. Of course, the proposed upgrading of the North Fork road would greatly increase the number of man and bear confrontations--confrontations that usually mean loss of either habitat or life for the bear. For the safety and viability of Glacier's bears and for the safety of motorists who will run the risk of high-speed collision with these large animals, the North Fork road should not be upgraded into a high-speed, two lane thoroughfare.

Besides failing to comply with the Endangered Species Act, we find that the proposed alternative also fails to comply with Section 4(f) of the Department of Transportation Act which requires that all proposals to take 4(f) lands shall include "all possible planning to minimize harm" and that excessive lands shall not be taken if a "reasonable and prudent" alternative exists. We find that Alternative E will only take and disturb a total of 20 acres of river land compared to 57 in Alternative C and consequently, is a more "reasonable and prudent" alternative.

1. See responses to previous letters and revised "Purpose and Need for the Project", "Alternatives", and "Section 4(f) Evaluation" sections of this document. See also USFWS Biological Opinion included in the appendix.

J.L. Budwig
March 31, 1982
Page Three

Thank you for this opportunity to comment on this proposal to improve the North Fork road. Although we realize the need for modest road improvement, substantial upgrading, as proposed by the Federal Highway Administration, is not necessary. Furthermore, the potential for disruption of the environment of this wild area greatly outweighs the convenience to be gained by such a plan.

Sincerely,



Laura Loomis
Administrative Assistant

1. See responses to previous letters and revised "Purpose and Need for the Project", "Alternatives" and "Section 4(f) Evaluation" sections of this document. See also USFWS Biological Opinion in the appendix.

Montana Wildlife Federation

AFFILIATE OF NATIONAL WILDLIFE FEDERATION

March 17, 1982

Mr. J. L. Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, CO 80225

Dear Mr. Budwig:

These are the Montana Wildlife Federation's comments in regard to the draft environmental impact statement and § 4(f) evaluation for reconstruction of Montana forest highway route 61. The Federation believes that the evaluation does not accord the North Fork area of Glacier National Park and critical wildlife habitat "paramount importance" as required by law; alternatives D and E are feasible and prudent alternatives to the proposed highway; the stated need for the road is incompatible with the management philosophy of these protected lands; and a comprehensive evaluation of cumulative impacts to this area must be made prior to any further action.

Section 4(f) of the Department of Transportation Act states in pertinent part:

The Secretary shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance as determined by the federal, state, or local officials having jurisdiction thereof, or any land from an historic site of national, state, or local significance as so determined by such officials unless (1) there is no feasible and prudent alternative to the use of such land; and (2) such program includes all possible planning to minimize harm to such parks, recreational area, wildlife and waterfowl refuge, or historic site resulting from such use. 49 U.S.C. § 1653(f) (1976)

The Federal Highway Administration's draft environmental impact statement states: "... recreational designated area will be encroached upon and land taken to widen the existing roadway under the 'build alternatives.'" 4(f) Evaluation at 77. MWF maintains that the statutorily prohibited use extends beyond the roadbed within the wild and scenic corridor and includes the increased pressure this road will place upon critical wildlife habitat and Glacier National Park.

THE WEALTH OF THE NATION IS IN ITS NATURAL RESOURCES
CONSERVATION DOES NOT ENO WITH CONSERVATION



MWF's position is supported by the Ninth Circuit Court of Appeals in *Brooks v. Volpe*, 460 F.2d 1193, 1194 (9th Cir. 1972), a case in which the court stated, "The word 'use' is to be construed broadly . . . in cases where environmental impact appears to be a substantial question." The court held that to encircle the campground with a freeway which would not actually traverse the campground was to "use" the campground, within the meaning of the statute. In *Citizens for Mass Transit Against Freeways v. Brinegar*, 357 F. Supp. 1264 (D.C. Ariz. 1973), the court noted the fact that the park land in question was immediately adjacent to the freeway route was enough to require that a determination under 4(f) be made. Additionally, close proximity of the proposed highway project to a congressionally designated wilderness area constituted "use" within the meaning of the statute. *Conservation Society of Southern Vermont v. Secretary of Transportation*, 433 Fed. Supp. 1320 (D.C. Vr. 1978).

The close proximity of the North Fork road to critical wildlife habitat and Glacier National Park constitutes a use within the meaning of the law. This is heightened by the fact that the park service has stated that "low standard access is one of the keys to maintaining the wilderness threshold character of the approaches." (DEIS p. XXI). The service has concluded that "... improved accessibility, with the attendant affects on resources must be viewed as incompatible with the park's management philosophy and objective." (DEIS p. XXII)

The Montana Wildlife Federation views these statements as a determination of significance by the federal, state, or local officials having jurisdiction within the purview of § 4(f). Thus, the amount of affected parkland "used" by this proposal is more than the land taken to widen the existing roadway.

The Federal Highway Administration 4(f) evaluation states the pertinent language from the statute but fails to reconcile it with the impacts on Glacier Park and critical wildlife habitat. The analysis emphasizes costs and economic benefits of the four alternatives disproportionately to other values in violation of § 4(f). The United States Supreme Court has stated that this statute, "... is a plain and explicit bar to the use of federal funds for construction of highways through parks--only the most unusual situations are exempted." *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 411 (1971). The Court continued by saying that:

[The] very existence of the statutes indicates that protection of park land was to be given paramount importance and park lands should not be lost . . .

unless there were truly unusual factors present in a particular case or the cost or community disruption resulting from alternative routes reached extraordinary magnitudes. If the statutes are to have any meaning, the Secretary cannot approve the destruction of park land unless he finds that alternative routes present unique problems. *Id.* at 413. (emphasis added)

1. See responses to previous letters and revised "Section 4(f) Evaluation" and the U. S. Fish and Wildlife Service Biological Opinion in the appendix.

MWF's position is that the wilderness threshold character of the North Fork area of Glacier Park and the high wildlife values associated with the area are to be given "paramount importance" and are legally protected because alternatives have not reached "extraordinary magnitudes" nor do they present "unique problems." Alternatives D and E are feasible and prudent alternatives. Safety and erosion control improvements can be implemented without a paved roadway. The EIS and 4(f) evaluation assume that the road is needed to facilitate use of the area; a use which is incompatible with the management of the area.

Assuming that there is no feasible and prudent alternative to Alternative C, the FHWA still may not approve the alternative until there has been "all possible planning to minimize harm to such parks." 49 U.S.C. § 1653(f) (1976). The record contains ample evidence that such planning has not been completed. The items in the "Issues to be Resolved" section of the draft EIS at page IX must be adequately addressed before further action is taken. The destruction of critical wildlife habitat and especially the incompatibility with Glacier National Park's management philosophy and objectives must be given paramount importance. Efforts to minimize damage to Glacier and the wildlife of the North Fork must be outlined in specific detail before the project is approved.

In support of this position, I would note in Monroe Conservation Council, Inc. v. Volpe, 472 Fed. 2nd 693 (2nd Cir. 1972) where the Court held that the Secretary of Transportation had not met the "all possible planning" requirement by simply referring to studies underway and present and future planning to mitigate damage. The Court stated:

Statutory mandate is not fulfilled by vague generalities or pious and self-serving resolutions or by assuming that someone else will take care of it. The affirmative duty to minimize the damage to park land is a condition precedent to approval . . . Id. at 700.

In Monroe *supra*, there was ample evidence that state officials were making efforts to limit the adverse impact on the park and the Secretary of Transportation concluded that all efforts will continue. However, the Court enjoined the Secretary from approving funding of the 4.25 mile segment until the Court was satisfied that there was no feasible and prudent alternative and all possible planning was done to minimize harm to the Park.

The North Fork proposal does not include all possible planning. There is no mention of measures to protect the values of the North Fork area of Glacier Park. In fact, the alleged need for the road is in direct conflict with the park service's management philosophy. There is also insufficient data upon which to establish specific mitigating measures for the protection of the threatened grizzly bear. In addition, the park service has indicated in a memo dated February 22, 1982, that

there is a "need for a more logical, comprehensive, planned approach to the critical North Fork area," and suggests establishing a special planning entity, comprising all affected state and federal agencies, citizens and local government to evaluate the cumulative effects of all development proposals on the region. FHWA approval of Alternative C must be denied until such a comprehensive plan is completed so that the statutory requirement of "all possible planning to minimize harm" to these protected lands will be met.

We also note that the threatened and endangered opinion of the U.S. Fish and Wildlife Service has not been completed. MWF would request that the EIS record remain open until this opinion is finished, so that the public can assess the conclusions of the Fish and Wildlife Service.

In summary, the position of the Montana Wildlife Federation is that:

1. The draft EIS and 4(f) evaluation are inadequate because they do not accord the North Fork area of Glacier National Park and critical wildlife habitat "paramount importance;"
2. Alternatives D and E are "feasible and prudent" alternatives;
3. The alleged need for the road is incompatible with the management philosophy of these protected lands;
4. The comprehensive evaluation of cumulative impacts; i.e., "all possible planning to minimize harm" must be made before any further action is taken; and
5. The U.S. Fish and Wildlife Services' threatened and endangered species opinion is essential before any decision is made.

Sincerely,

Vince Kozakiewicz
Montana Wildlife Federation

VK/rp

1. See responses to previous letters and revised "Section 4(f) Evaluation" and the U. S. Fish and Wildlife Service Biological Opinion in the appendix.

March 25, 1982

Mr. J. L. Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, CO 80225

Dear Mr. Budwig:

This letter is in response to your request for comments on the Draft Environmental Statement for Reconstruction of Montana Forest Highway Route 61, Flathead County Route 486, Flathead County.

The U.S. Fish and Wildlife Service and the Montana Department of Fish, Wildlife and Parks have expressed their concern over the impact of a paved road on the threatened and endangered species, and their opposition to the proposed alternative (Alternative C). We agree with these two agencies and feel they have fully covered the impacts of the proposal on the wildlife. We would like to focus our comments on the effects the proposal would have on the Flathead Wild and Scenic River.

First, we feel that the Federal Highway Administration has misinterpreted the management guidelines for Wild and Scenic Rivers. Recreational river segments are not to be managed to necessarily enhance recreation. The draft revised guidelines for management of Wild and Scenic River areas (Federal Register, V 48, N 18, pp 9148-9158) states that management guidelines in the Act should be "interpreted as stating a non-degradation and enhancement policy for all designated river areas, regardless of classification. . . . Each Component will be managed to protect and enhance those values while providing for public recreation and resource uses which do not adversely impact or degrade those values. . . . This section does not imply that managing agencies should encourage public use of wild, scenic, and recreational river area by developing additional public use and access facilities.

The proposed highway reconstruction runs counter to the management principles and will have unacceptable adverse impacts on not only the recreational segment which it directly affects, but also the whole North Fork of the Flathead. The proposal would degrade the values of the river corridor which led to its inclusion in the system. The encroachment of the road onto 26 additional acres of the recreational river corridor and the disturbance of another 31 acres is unacceptable. It would lessen the quality of recreational and wilderness experience on the river and adversely impact the wildlife and other natural values of the area.

Dedicated to the Preservation of Free-Flowing Rivers

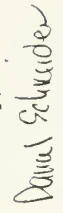
Further, paving of the road would lead to rapidly increased use of the river for recreational purposes. This would drastically alter the character of the recreational environment on the river. Presently, recreation is at a low level and well dispersed, providing a wilderness experience and requiring little management. The gravel road acts to make recreation on the river self regulating by limiting the number of users. If the road were paved, the managing agency would likely have to institute a permit system for river recreation. The increases number of users would decrease the enjoyment of the river, and the permit system would increase administrative costs. At present, the management agency is running at half of their required administrative budget, and would not be able to accommodate the increases administrative burden. Greatly increased use by recreationists without the ability to manage that use effectively would also lead to greater conflicts with landowners in the area. This would impair the ability of the managing agency to protect the values of the Wild and Scenic River.

However, the proposal would have other indirect, but potentially more serious effects on the Wild and Scenic River. By improving access to the North Fork valley, development pressures which are already threatening the river would be aggravated. As it presently stands, the managing agency does not have the funds to adequately protect the river corridor. The cumulative impact of increased access and the other planned developments would lead to an irreversible degradation of the wild and scenic qualities of the whole North Fork and the loss of one of the most magnificent of the Wild and Scenic Rivers.

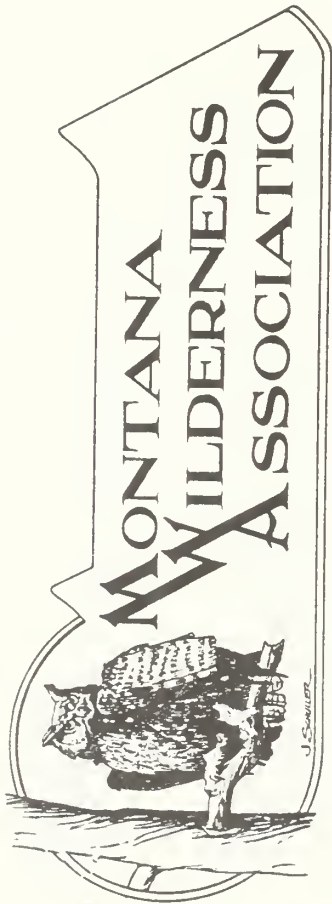
The rectification of a few minor problems on the present road does not justify the loss of the North Fork. This action is especially unwarranted since the Federal Highway Administration did not consider a wide enough range of alternatives that would address any safety, dust or erosion problems without causing significant harm to the wildlife or the river corridor. One example, for instance, is Alternative A with a dust control program.

Finally, the Statement has not demonstrated the need for such a potentially damaging project. The safety figures cited in the report show that there are actually fewer accidents involving injuries in the unpaved section than the adjacent improved sections.

The American Rivers Conservation Council strongly opposes the proposed alternative and suggests that either Alternative A or E be adopted. We also request that you keep us informed about any further developments on the proposal.

Sincerely,

Daniel Schneider,
Researcher

1. See responses to previous letters and the revised "Section 4(f) Evaluation", "Purpose and Need for the Project", and "Alternatives" sections of this document.



March 24, 1982

Mr. J. L. Budwig, Division Engineer
Federal Highway Administration
P. O. Box 25246
Denver, Colorado 80225

Dear Sir,

Please make these comments a part of the record concerning the paving of the North Fork Road in the Flathead National Forest west of Glacier National Park.

The Montana Wilderness Association is concerned with the proper management of all of Montana's public lands, including designated and defacto wilderness areas, national parks, national forests, wildlife refuges and Bureau of Land Management lands. MWA believes wilderness, wildlife, watershed protection and recreation are important aspects of multiple use management on your public lands.

The North Fork of the Flathead is unique because of lack of easy access to this wild area. This lack of access is all that protects the western boundary of Glacier National Park from negative impacts related to intensive development. The Department of the Interior in its "State of the National Parks" report, determined Glacier Park to be the "most threatened" National Park in the United States. Paving the North Fork Road is a major threat.

The Montana Wilderness Association joins the official position of Glacier National Park, the Montana Department of Fish, Wildlife and Parks, the U. S. Fish and Wildlife Service and the U. S.-Canadian Border Grizzly Project in supporting Alternative E in the Federal Highway Administration dEIS. We support the improvement of certain dangerous areas such as Fool Hen Hill, but are strongly opposed to any paving or oiling of the present dirt road.

The North Fork road must remain a primitive road if the wildlife habitat adjacent to Glacier Park is to remain healthy. If paved, the road south of the Canadian border will become a superhighway choked with trucks transporting coal from Cabin Creek, B. C., tourists and other spin-off development traffic. The North Fork will no longer be wild.

p.o. box 035 \ helena, mt 59601 \ phone (406) 442-0597

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- 2 -

The Montana Wilderness Association believes that Montana and the United States should avoid improving this "convenience road" for the sake of the future health of the Glacier National Park Ecosystem.

Sincerely,

Joan W. Montagne

Joan Montagne
MWA President

JM/jsf

cc: Flathead Chapter MWA
Bob Haradan, Superintendent, Glacier National Park

1. See responses to previous letters.

CHAMBER OF COMMERCE

P.O. Box 912
COLUMBIA FALLS, MONTANA
59912

March 30, 1982

Federal Hiway Administration
555 Zang Street
P.O. Box 25246
Denver, Colorado 80225

Dear Administrators:

On behalf of the Chamber of Commerce of Columbia Falls, Montana I would like to voice our feelings and opinions on our recent North Fork Road construction hearings.

It is the towns 100% majority consensus to support the North Fork Road improvement. This 100% came through a vote at our March meeting of the Chamber membership. It is also unanimous that we support Phase 3 as is the Forest Service, providing a 35 m.p.h. speed limit on an asphalt mat.

Hopefully you have travelled this road and know its condition. It really is not fit for travel let alone tourist traffic and/or our major industry traffic, Logging.

We need the improvements made, and if its main arterial community, Columbia Falls, is supporting its construction, we feel the only question that needs answering is, "When can we get started?"

Sincerely,



Steve R. Warren
President
Columbia Falls Chamber of Commerce

SRW/jms

Gateway to Glacier National Park and the Fabulous North Fork of the Flathead River



The Montana Environmental Information Center

• P.O. Box 1184, Helena, Montana 59601 (406) 443-2520
• P.O. Box 8166, Missoula, Montana 59801 (406) 728-2644
137 Main, Kalispell 59901 (406) 755-7763

January 20, 1982

Mr J.L. Budwig
Division Engineer
Federal Highway Administration
P.O. Box 25246
Denver, CO 80255

Dear Mr. Budwig,

I am the office director for the Kalispell Office of MEIC and my function is to act as a clearinghouse for information pertinent to environmental issues in this area. There are many people who are very concerned about the paving of the North Fork road adjacent to Glacier National Park and the effect it will have on the rugged wild quality of that area. We are particularly concerned about the cumulative effects on the grizzly of the many developments that are proceeding piecemeal in this area. Although each one is of minor significance and not easily criticizable, they are eating away at the unique qualities of this area which make it the last major grizzly habitat in the lower 48 outside of a national park.

The paving of this road is seen as a key issue. Please notify this office of the hearing date on the draft EIS. If there are copies of the draft EIS available, I would like to have one in this office for general reference use by the public.

Thank you.

Sincerely,



Joan Bird
Flathead Field Office Director

1. The U.S. Fish and Wildlife Service has determined that both Alternative B and Alternative C in conjunction with Flathead County road improvements would jeopardize the grizzly and wolf populations in the North Fork. The Forest Highway Program agencies cannot implement an action which jeopardizes such species. Therefore, Alternative D has been adopted as the preferred alternative for this project which will not jeopardize any species.
2. See response to previous letters.

March 25, 1982

NORTH FORK PRESERVATION ASSOCIATION

P.O. Box 4
Polebridge, Montana 59928

March 25, 1982

Mr. J. L. Budwig, Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

Having studied the Draft Environmental Impact Statement for Reconstruction of Montana Forest Highway Route 61, also known as the North Fork Road, in Flathead County, Montana, we would like to make some comments which we trust will be part of the Final E.I.S.

The need for paving of the road ought to be looked at as part of a total picture of what is happening to the entire drainage of the North Fork of the Flathead River!!

First, four potential strip mines north of the U.S. Border are likely to degrade the quality of the River even with the most valiant efforts on the parts of the mine owners to prevent pollution. The output of the nearest mine at Cabin Creek cannot be handled adequately by the Canadian Railway and it is likely that 4 of the 8 trucks leaving the mine hourly will be traveling down the North Fork Road to market. This would surely be detrimental to tourists and wildlife.

Second, mineral leaching in the Flathead National Forest--drilling for natural gas on Trail Creek Road with a possibility of four or five drilling rigs by 1985/1986 would be encouraged by a paved road. A semi-wilderness area like the North Fork (critical grizzly and wolf habitat) is no place for a boom town.

Third, Logging effects--for example the Ketchikan Creek Area near trail Creek is a roadless and potential wilderness area soon to have permanent roads and to be logged if a buyer can be found for this deficit sale.

The paving of the North Fork Road would give impetus to the above mentioned overdevelopment. Likewise, not paving the road would be a means of discouraging overdevelopment in an area bordering a National Park and on a Scenic and Recreational River with critical game habitat.

We believe the Federal Highway Administration should not make a decision on the North Fork Road until the Flathead River Basin Environmental Impact Study Steering Committee has their report ready on the cumulative

effects of strip mines in Canada, oil and gas explorations, logging sales and paving of the North Fork Road. The Flathead River Basin Study as you are aware is to be completed in about a year.

We respectfully suggest you cooperate more fully with other government agencies such as the U.S. Fish and Wildlife Service which has the ability to stop the paving because of jeopardy to wildlife. There is no longer a necessity to pave every gravel road in the nation.

The North Fork Preservation Association favors Alternative A which is the no-build option. If you choose Alternative E (spot improvements), we find this entirely agreeable, but paving or restructuring the entire ten miles of road from Canyon to Camas Creek Junction is not acceptable. Just think of all the money you will save by no paving. You will save between 2.5 and 5 million dollars which is in line with the current economy measures in government services.

Sincerely,

John Frederick

John Frederick
for/NORTH FORK PRESERVATION ASSOCIATION

1. See responses to previous letters and applicable revised sections of this document.
2. The Forest Highway Program agencies have had the benefit of numerous preliminary reports of the Flathead River Basin Study and these have been considered while expanding the discussion of cumulative impacts in this FEIS. Since Alternative D will not jeopardize any threatened or endangered species, it complies with the requirements of the Endangered Species Act. Given these circumstances, there is no apparent need to delay issuance of this FEIS.

NORTH FORK PRESERVATION ASSOCIATION

P. O. Box 4
Polebridge, Montana 59928

April 20, 1982

Mr. Eugene C. Samuelson
Central Direct Federal Division
Federal Highway Administration
P. O. Box 25246
Denver, Colorado 80225

Dear Sam:

I spoke with you briefly after the North Fork road hearing in Columbia Falls on March 17, 1982, about the North Fork Preservation Association road count. I meant to send you the information you requested earlier, but have been busy with the Cabin Creek mine, an open-pit, strip mine just six air miles from the northwest corner of Glacier National Park. The engineering on this mine is not good and sooner or later the overburden from this mine will get into the North Fork of the Flathead River.

Here is the information you requested from our survey:

Date	Day	Log trucks	Govt.	Other	Total
March 7	Sun	-0-	-0-	63	63
8	Mon	17	-0-	51	68
9	Tue	22	3	40	65
10	Wed	12	3	35	50
11	Thurs	17	4	15	36
12	Fri	5	1	21	27
13	Sat	-0-	-0-	25	25
Average		10.4 ±3.3 21.8%	1.6 ±0.6 3.3%	35.7 ±6.5 74.8%	47.7 ±7

Eleven percent lower
on weekends.
Weekday Average 49.2
Weekend Average 44

The counter was at the Big Creek Work Center (USFS) from 9:00 AM to 5:00 PM.

I hope this information is of some use to you. As I mentioned to you at the meeting, the traffic figures used in the D.S.I.S. seem inflated and the NFPA plans another survey later in the year.

Sincerely yours,

John Frederick, Jr.

John Frederick, Jr., Spokesman
NORTH FORK PRESERVATION ASSOCIATION

NORTH FORK PRESERVATION ASSOCIATION

P. O. Box 4, Polebridge, MT 59928
September 27, 1982

Mr. J. L. Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P. O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

In regard to E.I.S. on the North Fork Road on the western edge of Waterton/Glacier International Peace Park I wish to inform you that we are aware of a critical legal point in regard to possible reconstruction. In our opinion both alternate C (paving to a 35 mph design speed) and alternate D (rebuild to a 35 mph speed design speed surface) involve excessive taking of 4(f) lands.

Public lands are protected from encroachment by roadways by Sections 4(f) of the Department of Transportation Act of 1966 which states that the Secretary of the Department of Transportation shall not approve any program which requires the use of public land unless (1.) there is no feasible and prudent alternative to the use of such land (However there is alternate E which only disturbs 36 acres and has 12 acres in the right of way as opposed to alternate B and D which disturbs 74 acres and has 26 acres in the right of way) (2.) the program includes all possible planning to minimize harm resulting from such use. In regard to minimizing harm from road improvement it is curious that you ask help of the U.S. Fish and Wildlife Service and the Montana Department of Fish, Wildlife and Parks to prevent environmental harm when both agencies do not want a paved North Fork road, and they wish minimal road widening and improvement. I trust you will pay especial attention to the remarks of these agencies.

I have given you one more reason in favour of alternate E-- spot improvements of the North Fork Road.

Sincerely,

John Frederick, Jr.

John Frederick, Jr., spokesman
A loosely federated association dedicated toward preserving the integrity of the North Fork of the Flathead River Valley.

1. The NFPA survey was done during March which is normally a light traffic month. The counts of 63, 68, 65 and 50 for Sunday through Wednesday were within expected traffic fluctuations. However, the 36, 27, and 25 counts for Thursday through Saturday were considerably lower, probably due to adverse weather conditions. We understand that the counts were taken in the northern portion of the project area which has considerably less traffic than the southern area. Traffic at Canyon Point is about twice that just south of Camas Junction.
2. See revised "Section 4(f) Evaluation."

Coalition for Canyon Preservation

Box 422

Hungry Horse, Montana

59919

Re: FHWA-FPMT-EIS-82-1-D
March 17, 1982

PUBLIC HEARING TESTIMONY

The Coalition for Canyon Preservation, an affiliate of the National Parks and Conservation Association, presents the following testimony for the record tonight. I am Jim Manley, a member of the Board.

The Coalition is a non-profit resource organization dedicated to protection efforts of the Glacier National Park bioregion. The Coalition opposes the paving of the upper and lower North Fork roads because of cumulative encroachment threats to Glacier National Park and the North Fork of the Flathead, designated as a Wild and Scenic River. The Coalition supports Alternative E for Montana Forest Highway 61.

Although the U.S. Fish and Wildlife Service is rewriting their Biological Opinion for the lower North Fork road section, the jeopardizing factors which applied to Alternative B apparently will also apply to Alternative C. The Coalition concurs with the following opinions presented on page A-4 and p. 131 of this draft EIS: "It is the opinion of the Fish and Wildlife Service that the continued existence of the grizzly bear and the gray wolf would be jeopardized by the cumulative effects of the direct and indirect impacts of this project and scheduled road improvements" for the upper North Fork road. "The final EIS for this project should address cumulative impacts to fish and wildlife resources along the entire route to the Canadian border."

p. 2
CCP public hearing testimony
lower North Fork road

The Coalition believes Alternative E, (that is, spot improvements to satisfy safety requirements and no paving), to be the ONLY reasonable and prudent alternative to the unjustifiable taking and disturbing of recreational river lands protected by Section 4(f) of the 1968 Dept. of Transportation Act. Alternative C will unnecessarily take 26 acres of 4(f) recreational lands for right-of-way, as well as disturb 31 additional acres. Alternative E will "minimize harm" in compliance with Section 4(f) by taking only 12 acres of river lands and disturbing an additional 8 acres.

The results of the State of the Parks report demonstrating that Glacier is threatened by roads and urban encroachment needs to be adequately discussed in the final EIS. The draft EIS fails to identify the significance of Glacier as a World Biosphere Reserve. The Coalition concurs with the Mont. Dept. of Fish, Wildlife, & Parks' comments on p. 129 of the draft EIS: "The extent of the planned road improvements, and the changes that will be created are hardly in keeping with the biosphere concept."

Further, paving the North Fork road will cause an increased recreation management impact to Glacier Park and Flathead National Forest. With current fiscal constraints, such an increase would be an adverse impact on management capabilities. This factor warrants consideration in the final EIS. Secondary growth impacts on Glacier Park's resources, although addressed in cooperative agency comments, were not adequately considered in the draft EIS. This situation needs to be remedied in the final.

Thank you very much for the opportunity to comment.

Jim Manley
Member of Board
March 17, 1982

1. See responses to previous letters and applicable revised sections of this document.

Coalition for Canyon Preservation

Box 422

Hungry Horse, Montana

59919

March 30, 1982

Mr. J. L. Budwig, Division Engineer
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Re: HFP/FHWA-PPMT-EIS-82-1-D

Dear Mr. Budwig,

Regarding the draft EIS for the lower North Fork road, please note that the "River Classification" map on page 78 is outdated and inaccurate. The parameters of the Great Bear Wilderness in relation to Glacier Park and the Bob Marshall Wilderness are not indicated on this map, thus providing an inadequate regional perspective. CCP respectfully requests that this map be duly updated and / or corrected in the FEIS.

Attached are comments on said DEIS which require additional consideration and/or full disclosure in the final EIS.

Please send this organization a copy of the FEIS upon its completion. Thank you very much.

Sincerely,

Sharon L. Willows
Sharon L. Willows, Coordinator

enclosures

THREATS TO GNP, A WORLD BIOSPHERE RESERVE

GNP was designated a World Biosphere Reserve in 1974, a designation by the United Nations calling attention to the importance of retaining it as an area for ecological study where man's total impacts have been minimal. 92% of GNP has been proposed for wilderness classification and is presently managed as such (USDI/Stewart corres. to FHWA/Jensen, Nov. 13, 1981). Regarding threats to the biosphere reserve, CCP concurs with FWP statements on p. 129 and 121 of the North Fork DEIS:

"The extent of the planned road improvements, and the changes that will be created are hardly in keeping with the biosphere concept. With each succeeding step it becomes more difficult to say 'no' to the next planned development and soon all will be lost. Building a wide, paved road to connect a loop route between West Glacier and Columbia Falls via Camas Creek entrance is in conflict with keeping the biosphere concept." The paving of the North Fork road "will bring another onslaught of travelers and use to the northwestern edge of the biosphere".

Threat to the North Fork -- FHWA's recently-released lower North Fork road DEIS proposes an unnecessary taking of Recreational River 4(f) lands adjacent the designated North Fork of the Flathead Wild and Scenic River System. Section 138 of the Federal Aid Highway Act, in terms identical to those of Section 4(f) of the Department of Transportation Act of 1968, states: "the Secretary (of DOT) shall not approve any program or project which requires the use of any publically owned land... unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such recreational area." 23 U.S.C. 138; 49 U.S.C. 1653(f). Appendix A-7 in the North Fork DEIS (FWS' Biological Opinion) demonstrates that Alternative E was recommended as a reasonable and prudent alternative. FHWA does not demonstrate the reasons for rejecting FWS' Biological Opinion recommendation (refer to p. xxv, NF DEIS). This DEIS does not indicate why Alternative E is not a feasible and prudent alternative to the excessive taking of 26 acres of 4(f) recreational river land for right-of-way, as well as disturbing 31 additional acres. Alt. E will mitigate impacts by only taking 12 acres of river lands and disturbing an additional 8 acres (p. 80, NF DEIS), and is therefore a reasonable plan to minimize harm. FHWA has not demonstrated all possible planning to minimize harm to the North Fork Recreational River Section 4(f) lands. Section 4(f) requirements apparently are not being met.

1. The River Classification Map has been updated.
2. See responses to previous letters and revised "Purpose and Need for the Project", "Alternatives", and "Section 4(f) Evaluation" sections of this document. See also the USFWS Biological Opinion included in the appendix.

Regarding the encroachment threat on the designated North Fork of the Flathead River, please consider the position of MT. Fish Wildlife & Parks as stated on pgs. 121-122 of the North Fork DEIS:

"Any plans in which the U.S. Forest Service condone or recommend major road up-grading seems to be in direct conflict with their congressional charge as administrators of the Wild, Scenic, and Recreation River designation... We strongly urge that except for correcting inadequate and failing bridges, road reconstruction in narrow, slide areas and necessary maintenance, the North Fork road be left Wild and Scenic with high quality recreation instead of meager and low quality recreation for the masses which would require confining regulation to preserve any recreation of quality."

The North Fork DEIS conceals another encroachment threat to GNP, the paving of the upper North Fork road from Camas Junction to the Canadian border. (The North Fork road demonstrates another example of the segmentation process or piece-meal decision-making that will eventually be the ruin of GNP.) CCP urges the Subcommittee to support the FWS in comments to FHWA/Budwig and FNF/Emerson:

"It is the opinion of the FWS that the continued existence of the grizzly bear would be jeopardized by the cumulative effects of the direct and indirect impacts of this project and the scheduled road improvements conducted under the Project Cooperative Agreement No. 17 (p. A-4). (County of Flathead - USDA, North Fork Road No. 210 -- FNF has agreed to provide easements across Federal lands and to provide Federal monies to Flathead County for the paving of the upper NF road, signed Nov. 6, 1978, p. A-2). FWS continues: "direct impacts would result from the intersection of grizzly bear travel corridors by the proposed project and its related road project north to the Canadian border" (p. A-3). "It is the opinion of the FWS that the continued existence of the gray wolf would be jeopardized by the cumulative, indirect effects of this project combined with those resulting from scheduled road improvements conducted under Project Cooperative Agreement No. 17" (A-5). "The EIS should address cumulative impacts to fish and wildlife resources not only affected by the road improvement but also along the entire route to the Canadian border" (p. 131, FWS/Ballou corres. to FHWA/Budwig, Aug. 27, 1979). "This comprehensive and necessary approach was not used in the North Fork DEIS, which generally avoids the upper North Fork road issue."

The State of the Parks report demonstrates that GNP is the single most threatened unit of the National Parks System. This congressional report lists GNP as being threatened by roads and urban encroachment. GNP also lists terrestrial mammals as a resource threatened by roads. GNP has remained pristine due to the de facto wilderness buffer largely surrounding the park and managed by FNF (61% of the Flathead River System acreage is under the jurisdiction of FNF/USDA -- North Fork DEIS, p. 77). The State of the Parks report also demonstrates that the loss of protective surrounding buffer zones is causing "significant widespread adverse effects associated with external encroachments" (May, 1980, p. viii).

In the DEIS for the lower North Fork road, the FWS biological opinion states: "the proposed improvement of the North Fork Flathead River road is likely to jeopardize the continued existence of the grizzly bear and the gray wolf." (p. A-1) As Grizzly habitat, the North Fork is a very unique area in the lower 48 states. Grizzlies abound both inside and outside the Park throughout the drainage (Jonkel/BGP corres. to FHWA, 9-1-79, NF DEIS, p. 126). The North Fork drainage offers the GNP Grizzly relatively undisturbed habitat immediately adjacent park boundaries. "Possible direct adverse effects of the proposed project on grizzlies include interference with grizzly road crossings as the bears move between the Appgar Mountains of GNP, the North Fork floodplain, and the Smokey Range of the Flathead National Forest." (Biological Assessment, p. 18)

North Fork DEIS - Appendix A-1: "The objective of the following alternative is to reduce the secondary cumulative impacts resulting from this potentially increased access and human use. Achieving this objective is the most practical means of insuring that the grizzly bear and gray wolf will not be jeopardized. To this end, FWS recommends the road project be re-designed using minimum specifications so that: (1) paving is not required, (2) maintenance for winter-driving conditions remain at existing levels, (3) the width of the cleared right-of-way be significantly reduced in surface acreage, (4) hazardous road areas provide adequate safety at the reduced speed design (of 25-35 mph), and (5) the existing road alignment be adhered to as much as possible." (U.S. FWS' Biological Opinion)

See responses to previous letters and revised "Purpose and Need for the Project", "Alternatives", and "Section 4(f) Evaluation" sections of this document. See also the USFWS Biological Opinion included in the appendix.

109 LaSalle Road
Kallispell, Montana 59901
March 25, 1982

J. L. Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P. O. Box 25246
Denver, Colorado 80225

Dear Sir:

I have already stated my preference for Alt. A in the draft EIS on the North Fork Flathead road in my oral testimony on March 17, 1982. My documentation for the figures I used in my oral testimony is as follows:

1. Guy Foy, Flathead County Road Dept., bookkeeper, stated the county spent \$34,058.97 in 1980 and \$70,323.25 in 1981 for maintaining the entire N. Fork road for which the county had responsibility.
2. The figures for the U.S.F.S. contributions to the county in 1981 are based on receipts reviewed in the county treasurers office.
3. The tax range on private property in the N. Fork came from records in the county treasurers office.

I have two general comments on the EIS as a document. First, documentation for facts and questionable statements is absent. It is difficult for the reader to evaluate the reliability of the EIS without this documentation. For instance, the raw traffic count data should be given so that the reader can more accurately judge the statements made concerning traffic volume and projection.

My second general comment is based on my attempts to get accurate explanations on the parts of the EIS I did not understand. Invariably my initial phone call blossomed into 2-3 others before I reached a person who could give me a clear answer. It took, for instance, three phone calls to get a definition of "economic capacity" and how it was determined. I have yet to receive a definite answer to my question on whether the \$3.00 value used on page A-18 is a net value or a value from which the added costs of administration due to increased use have not yet been subtracted. The basic reason for all this confusion is that different people write different parts of the EIS. I have no quarrel with this method but those responsible for answering questions and for making the final decision should understand completely the EIS's underlying assumptions, methodology and terminology. How else can an informed decision be made?

Page 2

I also wish to get on the record the following page-specific comments.

Page 5 and 7

The data does not support the statements made throughout the EIS that paving will improve safety. The minor accident rate may be higher on the dirt section but serious accidents and fatalities are much greater on the paved section. Not included in your data is a Nov, 1981 fatal accident involving a logging truck and passenger car. This accident occurred on the paved section north of Columbia Falls.

Page 8

The maintenance cost figure of Alt. A is listed at \$176,697. This figure is also used on page A-22. However, the figure \$40,847 is given for Alt. A maintenance through out the EIS and is the dollar amount discounted on pages A24, A25, and A26. The reason for using both sets of figures should be explained better. In light of the figures Guy Foy supplied to me on the county dollars spent on maintenance the source of the \$40,847 figure should be documented as well.

Page 11, Paragraph 5

The amount of water and air pollution created by dust under Alt. A is not quantified. In a phone conversation I had with District Ranger Dick Call, he was unable to cite any evidence of roadside vegetation and wildlife being harmed by dust. He also had no facts showing dust pollutes the river. Even the dirt slide at Fool Hen Hill is a natural slide and slides will occur with or without a road. If evidence of dust pollution is significant it should be documented and the amount created should be compared to that created by construction, maintenance and increased traffic under the other four alternatives.

Page 15, last paragraph

The so-called adverse impacts and cost figures of dust control measures are not documented. District Ranger Dick Call told me except for the possibility of accidental spillage he knew of no adverse effects of oil treatment.

Page 45- paragraph 2

No detailed explanation is given for the statement about the road surface discouraging timber bidding. A similar statement on page one also needs documentation. District Ranger Dick Call told me he knew of only one problem with a timber contract. It was resolved and the timber sale proceeded as scheduled when the county immediately improved their road maintenance which was being funded by timber sale money.

1. See responses to previous comments and applicable revised sections of the FEIS.

page 46, paragraph 4
I doubt that vegetation can be restored to Fool Hen Hill under any of the alternatives. With or without a road this natural slide area will put dirt into the river. What percent of the dirt which slides into the river is the result of the present road? Will this situation be improved under the other alternatives? Is the present erosion impacting the fish population?

page 48, last paragraph
Is it not possible that the increased sedimentation due to construction even though it is short term could be more harmful than the lower level but longer term pollution from the present road if sediment pollution exists?

page 50, paragraph 1
The project engineer might be under pressure to get the job done faster and cheaper and thus sacrifice water quality to construction needs. An environmental overseer should make the final decision on equipment operating in live streams.

page 56, paragraph 5
If the county does not hold the deed to the roadway who does own it? The EIS gives the impression the county always owned the road even though the U.S.F.S. assumed maintenance costs during certain years. A clearer statement regarding road ownership and maintenance responsibilities needs to be made.

page 58, paragraph 7
Document fugitive dust impacts on wildlife. On pages 57 and 59 the MDFWP says these impacts are not significant.

Page 70, paragraph 1 and Page 80, last paragraph
It is unclear whether Mel Wollan speaks for the entire Board of Commissioners or just himself. My oral testimony showed enough money is generated in the N. Fork to maintain the road without the necessity of paving. It should also be noted that even Alt. C calls for \$37,368 in county maintenance per year. This amount is only \$3,479 less than the \$40,847 the EIS apparently estimates the county spends now. Given the small difference between these two figures how does the county gain in maintenance savings? It is foolish to spend 2.5 to 6 million in construction dollars in order to save a few thousand maintenance dollars. This maintenance argument has not been proved. Any local government official is going to claim bankruptcy if a chance exists to gorge on federal dollars.

Page 71, paragraph 2
What documentation exists for the statement "the reduced maintenance cost..." etc. The opposite is more probably true. Schooling and law enforcement costs are now minimal. No school

presently exists since only a few children live up the North Fork. A larger population will require a school or increased busing as well as increased police service, health service, etc.

Page 71, paragraph 5
The time savings will be small if the road is designed to a 35 mph standard. I recently averaged 25 mph on the present road despite its spring break up surface. That's a maximum difference of seven minutes. Total maintenance costs of government vehicles may not be reduced. If paving leads to more visitors requiring more management trips the total cost could rise. Administrative efficiency can be improved by cheaper methods than spending millions for road improvements.

Page 71, last sentence
This is economic nonsense. The small amount of additional money the county might gain does not justify the millions to be spent on reconstruction. This sentence needs documentation. How much will the county save? At what cost to the federal taxpayer?

Page A-18, paragraph 2
Is the \$3.00 per person value a net value? Have the extra costs due to increased administration been subtracted from the value a visitor adds to the local economy? It is also unclear why all the extra vehicles were credited to recreation use. In addition, why assume a gain of \$3.00 per person to the local economy if visitors use the proposed paved road instead of doing, as many do now, just turning around at Catus Junction and returning to West Glacier the same way they came. A back and forth trip on the park road would have the same value as a round trip using both the park road and forest service road.

Page A-19, chart.
Even if a paved road is proposed does it not make economic sense to wait until just a few years before the point at which the Net Present Worth Cost of Alt. C is lower than Alt. A before beginning construction. Should not construction dollars be used on projects with a shorter economic pay off time?

Appendix-economic analysis
Why was no sensitivity test done using a discount rate of 7-8%? Isn't this test required?

I also wonder why interest foregone on the construction dollars for Alt. B-E isn't added to their cost. If I use \$1000 of my money in a business I have to include the interest I could get on that money as a cost of doing business. To do otherwise gives a false net return figure. Adding in the interest foregone just like you added in the value foregone would give a clearer picture of the economic benefits of each alternative.

Yours truly,

Richard A. Kuhl

Richard A. Kuhl

1. See responses to previous letters and applicable revised sections of this document.
2. The present road and road maintenance activities exacerbate the erosion problem on Fool Hen Hill. As material sloughs from the uphill side onto the road, county maintenance forces blade the material over the downhill side thus continuing the raw slope down to the river. Reconstruction with Alternative D would better stabilize the uphill cut thus allowing project revegetation and natural succession to reduce erosion and the sloughing of material.
3. This is not considered likely unless construction activities add excessive amounts of soil/runoff to the drainage. Erosion and sedimentation are to be controlled during construction by implementing an effective erosion control/revegetation plan and schedule.
4. The DEIS states that the road and right-of-way is currently federally-owned but maintained by Flathead County; ownership would be transferred to Flathead County upon completion of reconstruction.
5. There are no identified significant adverse effects to the North Fork vegetation or wildlife due to the fugitive dust.
6. Federal law requires the Forest Service to give 25 percent of their income from forest resources to the County. To neglect increasing the amount paid to the County when Forest revenue increases would be a violation of the law. County Commissioner Melford Wollen has stated that, "Past experience and figures show us that an asphalt road costs less than one-half the maintenance cost over dusty, gravelled roads." See the "Purpose and Need for the Project, Economic Analysis" section for the relative costs of each alternative.

874 University
Poulder, Co. 80302
30 March 1982

Mr. J. L. Budwig
Division Engineer
U.S. Department of Transportation
555 Zang St., P.O. Box 25246
Denver, Co. 80225

Dear Mr. Budwig:

As part of a University project, we have examined the draft environmental impact statement regarding the proposed paving of the Lower North Fork Road. Our comments and questions are as follows:

1. Cost Analysis

User costs, documented on pages A-25 through A-34, do not reflect the change in traffic use projected with each alternative.

Accurate cost analysis should contain estimates of development related tax increases.

Increased recreational use also entails a cost. As more people use the area, the wilderness experience of each individual is diminished. This "cost" can lead to a downward shift in the visitors demand curve. This factor should be taken into account when figuring cost and benefit data.

This analysis should also include the rise in facility and manpower costs necessary to handle additional forest and park visitors.

2. Benefit Analysis

Costs and benefits are calculated using different estimates of average daily traffic. Costs are based on 27.25 ADT increase over current levels, while benefits are figured using a 41 ADT increase over alternative A.

Benefit data alternatives B through E should vary with the traffic level projected for each alternative, rather than remain constant.

More care should be taken to quantify actual benefits. Such as:

- accurate figures on usage increase
- figures on dust control and related safety
- implicit quantification of benefits due to increased recreation.

3. Traffic

Projections based solely on full use of energy reserves and development on private lands are insufficient. Projections based on partial energy resource use and partial private development should be included along with figures based on no energy resource use

2

and no private development.

4. Inconsistencies

Projections of traffic on the North Fork Road are contradictory. A single, accurate estimate is imperative.

Data on the drop in park visitors does not support improvement of existing road.

Lack of amenities is cited as a reason for the county's high growth rate. Improving the present road seems inconsistent with the desire for a wilderness lifestyle.

Proposed visual barriers to protect the Grizzly Bear population are in direct contradiction with improving visitor's visual experience.

Logging activity is projected to fall in the future. Loggers are accustomed to unimproved roads.

5. Conclusion

Due to the inconsistencies of the traffic volume data, there are relatively few concrete benefits resulting from this project.

These include: 1) better dust control; 2) lower maintenance costs on vehicles; 3) greater ease of travel along this part of federal highway 61. Do these benefits justify the high dollar costs of production? Do they justify the possible extinction of the Grizzly Bear and Grey Wolf? It seems clear that the relatively narrow scope of the benefits cannot justify these costs. It seems that other interests will benefit directly from the improvement of this road. We would like further information on the relationship between the improvements to FH 61 and: the oil gas rights leaseings, the development of commercial electricity in the area, increased development and subdivision of private lands and; the direct monetary benefits to the logging companies. It is quite clear that these are pertinent issues which were not thoroughly considered in this draft statement.

Sincerely,

Kevin Keutmann
Kevin Keutmann

Karl Hans Moltrecht
Karl Hans Moltrecht

Douglas Anderson
Douglas Anderson

1. See the revised "Economic Analysis" in the appendix.
2. See the revised "Purpose and Need for the Project" and "Alternatives" sections. FHWA uses the worst case in the comparison of impacts to benefits. It is not considered in the public interest to waste time and funds on innumerable combinations of conditions.
3. As stated in the DEIS, there are no oil or gas leases in the North Fork area, only exploration permits. Additional information on Forest Service policy concerning oil and gas leasing may be obtained from the Forest Service offices in Columbia Falls or Kalispell, Montana. As stated in this document, there are no current plans to extend electricity up the North Fork Valley. Development and subdivision of private lands are discussed in the "Affected Environment-Social and Economic Environment" and "Environmental Consequences-Social and Economic Environment" sections. Monetary benefits to logging companies are shown in the Forest Service "Economic Analysis" appended to this document.

March 1982

Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

Re: Paving of the North Fork Road

As a person who recognizes the high value of our natural resources and enjoys the rich beauty and wildlife of our National Parks, I would like to address the issue of paving the North Fork road in N.W. Montana. I would like to stress my support for Alternative E in regards to this.

I have many reasons for feeling so strongly in opposition to the proposal to pave this road, foremost being the protection of so many threatened and endangered species of wildlife. Montana is blessed to have an area so rich in animal life. This area is under constant development pressure which threatens the very existence of much of this wildlife. And since rapid and uncontrolled development is the major threat, then unnecessary projects such as this should be stopped!

The Montana Dept. of Fish, Wildlife, & Parks estimates that poaching will dramatically increase if access is improved. The proposed paving would also directly remove eleven acres of the Big Creek and 29 acres of the Wild & Scenic River Corridor, cutting across important wildlife travel corridors between the Apgar and Whitefish Ranges.

I find it very ironic that this proposal should even be considered. Glacier Park was determined by the Dept. of the Interior to be the most threatened park in their "State of the Parks" report. Unnecessary projects such as this are the reason why!

Furthermore, Glacier Park; U.S. Fish & Wildlife Service; Montana Dept. of Fish, Wildlife & Parks and the Grizzly Project all support Alternative E.

Alternative E, correcting dangerous spots (such as Fool Hen Hill) and oiling three times a year for dust control, is to me the most sensible choice. The current road is more than adequate for serving the needs of valley residents and tourists alike. I feel tax dollars would be much wiser spent on Alternative E -- improving the bad spots in the existing road, with NO paving.

With the paving of the road, demands for services will sharply increase, and with it taxes, vandalism and crime. This will only serve to further fuel the development process! I feel that developers who stand to make substantial profits from subdivisions and trailer courts near the Canadian border and along privately owned bottom lands are pushing this at the expense of the many more of us who would like to see this area preserved for the enjoyment of all.

And I am very suspect of the reasons for paving this road. Safety? The Federal Hwy Administration's own statistics (pg 7, DIES) reveal that accidents, involving personal injuries and fatalities, are actually lower on the unpaved portion of the North Fork Road. So the paving alternative while perhaps lowering the number of minor accidents, would actually increase life & limb threatening accidents!

I elicit your support in supporting Alternative E, spot improvements (such as Fool Hen Hill), with no paving. Also oiling of the road three times a year for dust control.

Sincerely,

M. J. L. Budwig

Mr. J. L. Budwig, Division Engineer
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

March 1982

Dear Mr. Budwig,

I oppose the paving of the upper and lower North Fork roads because of cumulative encroachment threats to Glacier National Park. Please add this comment in support of Alternative E to the public records for the draft EIS, lower North Fork road (Montana Forest Highway 61):

(1.) I support the U.S. Fish and Wildlife Service's "jeopardy opinion", and believe the draft EIS is apparently not in compliance with the Endangered Species Act. FIIWA has not provided substantive rationale for rejecting the "reasonable and prudent" alternative recommended by the U.S. Fish and Wildlife Service in their biological opinion. I believe the public interest would be served with a Final EIS that fully complies with federal law.

(2.) I believe Alternative E (spot improvements to satisfy safety requirements, no paving) to be the ONLY reasonable and prudent alternative to the unnecessary taking and disturbing of recreational river lands protected by Section 4(f) of the 1968 Dept. of Transportation Act. Alternative E will duly "minimize harm" in compliance with federal law.

Sincerely, *Mary L. Knatta*

(full address) *1695 Whalbone Dr.*

Kalispell, Mtn 59901

Approximately 159 of these form letters were received in support of Alternative E. The contention that the Draft EIS did not comply with the Endangered Species Act is inaccurate. The Act requires that no federal agency implement any action which jeopardizes such species. At the suggestion of the U. S. Fish and Wildlife Service, the DEIS was the mechanism for public and inter-agency review of all alternatives and no biological opinion had yet been issued on Alternatives C, D, or E. In addition at U. S. Fish and Wildlife Service request, submittal of the DEIS (with a preferred alternative identified) was to reinstitute endangered species consultation to determine the effects of the proposal. Clearly no jeopardizing action has been taken by FHWA which has complied strictly with the letter and intent of the Endangered Species Act.

The letters on the following pages raise questions and issues previously answered or discussed. No responses are provided except to direct the reader to previous responses to letters or applicable revised sections of this Final EIS.

Lead Office of
Mr. Garvey, Lance V. Heberling
a partnership of professional corporations
745 South Main
Helena, Montana 59601
Telephone (406) 255-5032

Del. L. Mc Garvey, P.C.
John A. Lanza, P.C.
Jon L. Heberling, P.C.
Diane B. Wall

of Counsel
John M. Schilly
Frank B. Morrison, Jr.

February 19, 1982

Mr. John Emerson
Forest Supervisor
Flathead National Forest
Box 147
Kalispell, Mt. 59901

Dear John:

Enclosed is a copy of the testimony of Thurman Trosper given 2/5/82 concerning threats to Glacier National Park. This was discussed at the meeting of the Flathead River Basin Study with Senator Max Baucus on 2/15/82. Dale Bosworth was present representing the Forest Service.

Please consider this letter a formal request that the FNF consider the enclosed, and the entire record of the hearings before the House subcommittee, in preparing the final EIS on the North Fork Road paving project, the EIS on the FNF plan, and in connection with any further action on the North End Sale.

Please note that the Cabin Creek coal mine proposal is now active, and since it is the responsibility of the EIS's to consider cumulative effects, the EIS's must include the Canadian coal mine impacts and other B.C. impacts as well.

The cumulative effects study done for the North End Sale was a good stride in this direction. I further request that before any further action is considered with regard to the North End Sale, that I receive notice and the MWA receive notice through John Gatchell, so that we may meet with you to further examine the matter in light of changed circumstances, including the Cabin Creek matter, the North Fork Road paving project, and other matters outlined in the Trosper testimony.

Please deem this letter a comment to the draft EIS on the North Fork Road paving project, and a demand that this EIS consider the cumulative effects on the Park and the GVRD, as

Mr. John Emerson
Page 2
February 19, 1982

set forth above and as outlined by the Trosper testimony.

If the FNF pursues the North End Sale or the paving of the North Fork Road, then FNF policy will itself be a threat to the Park. I request that Forest Service policy be reconsidered in terms of cumulative effects, including those from the Canadian side. The North Fork Road paving EIS and the plan EIS are obligated by law to give cumulative effects careful consideration. It is our continuing contention that the North End Sale decision-making process must consider them also, and that this must be done as of the date any further action be taken. If the North End Sale proceeds, this would surely be an issue posed.

There is a political aspect to the above as well. If our governmental agencies take actions which are listed as threats to the Park, then our negotiating position with the Canadians is severely undercut. How can we ask the Canadians to take extra steps to mitigate their project, if the Forest Service does not make every reasonable effort to protect the Park from our side?

Thank you for your continuing willingness to listen to concerns for the Park, for wildlife, and for aquatic resources.

Please see that this letter is placed in the Forest Plan file, the North End Sale file, and the draft EIS North Fork Paving Project file.

Enclosed also is the CCP comment to the threats to GNP hearing, dated 2/10/82, and the letter of W. Steucke of 2/5/82. Please enter these into the Forest Highway 61 EIS record as comments.

Yours sincerely,

Jon L. Heberling, P.C.

JLH:jd
Enclosures

Gary Sakahara
246 1/2 6th ave S.W.
Knappton, Mt. 99001

Mr. J.L. Budwig
Division Engineer
Central District Federal Division
Federal Highway Administration
P.O. Box 75246
Denver, Colo. 802 5

Dear Mr. Budwig:

On Jan. 28th '82 I first saw and began to review the draft D.E.I.S. on reconstruction of the So. Fork of Flathead river road (Forest Highway #61). This was at a meeting of Flathead Wildlife Inc. board of directors of which I am a member. At that meeting it was decided that the board would support one of the no-pave alternatives (A), (D), or (E).

On Feb. 11th all alternatives (A), (B), (C), (D), and (E) were read before members of F.W.I. at regular meeting. The members voted unanimously to support alt. (E). Then at the Feb. 28th board meeting I volunteered to present the F.W.I. opinion at the public hearing in Columbia Falls.

The next couple of weeks I extensively reviewed and studied the D.E.I.S. The conclusion became obvious to me that there was no way that either of paving alternatives (B) or (C) could be considered without complete disregard to wildlife and fisheries. This is especially true regarding GRIZZLY BEAR, GRAY WOLF, BALD EAGLE, PIEDMONT FALCON, and BULL-THROAT.

Also during this time I met with, or spoke by phone to officials from: U.S. Fish and Wildlife Service, Montana Department of Fish Wildlife and Parks, and Border Grizzly Project's Charles Jonkel.

I then met with a group of citizens of the So. Fork and officials and members of Montana Wilderness Association. We discussed all aspects of the D.E.I.S. at length.

I feel that the D.E.I.S. is incomplete in its assessment of:

- (1) The cumulative impacts of paving the road and implications of improved access to the area.
- (2) Mitigation measures to protect wildlife fish and their habitat
- (3) How to deal with more and faster traffic into a sensitive ecosystem.

* I feel the D.E.I.S. is less than honest in its:

- (1) TRAFFIC PROJECTION graph page 6 showing that traffic increases will vary very little regardless of which of the five alternatives is chosen.
- (2) MAINTENANCE COSTS charts eg. P. A22 \$360 annual cost pothole patching alt. C
- (3) CONSTRUCTION COSTS charts pages a29, a31, a33 2.5 million dollars alt. E
4 million dollars alt. D
5 million dollars alt. C

Only one million dollars more be spent for paving would seem to me to buy a very second rate paving job. A paving job with much more than \$360 per years worth of pot holes.

CONCLUSION: I think the D.E.I.S. and all the plans and proposed alternatives should be **SCRAPPED**, UNTIL a co-operative management plan for the area can be reached between the Forest Service, Fish and Wildlife Service, Glacier Park, Mt. Dept. of F.W.Parks, and Flathead County. Along with input from FLATHEAD RIVER BASIN STUDY and special biological studies such as Jonkel's Border Grizzly Project and Keans' wolf study. A management plan that gives HIGH PRIORITIES to needs of the fisheries and wildlife of the area esp. the (THREATENED AND ENDANGERED) species and their habitat. **Always** keeping in mind the VERY SERIOUS consequences of mans continuing encroachment into sensitive and all too few remaining wildlife areas. Then re-think the road and alternatives and submit another and better prepared draft environmental impact statement for public comment and response.

Thank you very much for accepting my comments, both at the Columbia Falls hearing and in this letter. The North Fork of the Flathead is a very special area to me and has been for at least 25 of my 32 years. I take very personally any accelerated attempts to destroy the quality of this area.

Sincerely Yours

Gary Sakahara, member
board of directors.
FLATHEAD WILDLIFE INC.

*I have no facts or proof or numbers of my own, yours just seem totally unrealistic. If this can be clarified for me I would appreciate it.
NOTE: the club vote was for alt E. as stated in the beginning of this letter, the rest of the letter is my own opinion which is no nothing. (Alt. A) until further studies are made.....GARY SAKAHARA...

Dept. of Fisheries and Wildlife
Oregon State University
Corvallis, Oregon 97331
March 10, 1982

Mr. J. L. Rudwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, Colorado 80225

Dear Mr. Rudwig:

I appreciate the opportunity to review the draft Environmental Impact Statement for reconstruction of a portion of Montana Forest Highway Route 61 (North Fork Flathead River Road). I would like to comment on a number of major shortcomings of the draft.

Levels of Use

"The paved alternatives will... [make] access to recreation opportunities, residences, and forest industry locations faster, more pleasant, and safer" (page vi). There is no doubt that this will result in an increase in traffic up the North Fork, diminishing the solitude that North Fork residents value and increasing the need for services, such as law enforcement, from the already financially beleaguered county, state, and federal agencies. I question whether the reduction in maintenance costs will outweigh the costs of increased demand for services.

The method used to project vehicle use is not valid, and there is no basis for throwing out the data from 1978. The trend in vehicle use before 1971, prior to any paving, would have resulted in a level of use of 335 vehicles/day in the year 2004, not substantially greater than the stated capacity of the gravel roadway. Paving a portion of the road more than doubled the annual rate of increase in vehicle use, resulting in a prediction of 841 vehicles/day in the year 2004. Additional paving can be expected to further accelerate the annual increases in vehicle use. Past trends suggest that further paving would result in 1,347 vehicles/day by the year 2004. The increase may, in fact, be greater than this projected level of use since the proposed paving would complete a paved "scenic loop" (page 3).

"The economical capacity of the existing gravel roadway is about 300 vehicles per day" (page 5). In spite of this, part of the road was paved, increasing use of the adjacent gravel road beyond its capacity. Extension of the pavement should be carried out only if it will not lead to levels of use exceeding the capacity of the gravel sections adjacent to the extension. Otherwise, it can be expected that increased use of the gravel sections will lead to political pressure to further extend the pavement. At what point will we draw the line against additional extensions?

In what way were projected increases in development, given on page 63, derived?

Safety

The statements concerning safety seem to be purposely misleading. The table on page 7 shows that although the accident rate on the gravel road is higher than on the paved road, the rate of human injuries and fatalities is lower. In addition, "many vehicles already travel the existing [gravel] road in excess of 35 mph, some in excess of 50 mph. A paved improvement will increase average vehicle speed..." (page 61). There is thus no evidence that paving will enhance the safety of people. Safety should therefore not be used as a justification for it. Paving may reduce the accident rate, but the rate of injuries and fatalities will rise.

"The County will consider keeping winter snow removal and maintenance at current levels... (however, these measures will become more difficult to implement as private land development increases in the North Fork)" (page 59). If the County does not intend to undertake a commitment for these responsibilities, then this statement should be deleted as it tends to be misleading. Also, I question how development on private land will affect the difficulty of snow removal on a given road.

Natural Resources

Paving the road will facilitate harvest of timber, but at the expense of other natural resources that are equally important in contributing to the recreation and tourism industries of Flathead Valley. The Montana Department of Fish, Wildlife and Parks, the U.S. Fish and Wildlife Service, and the National Park Service concur that paving will result in intensified detrimental impacts on wildlife and fisheries resources of the North Fork. The impacts will be long-term and essentially irreversible, and will be reflected in impacts on the local economy.

Treatment of wildlife concerns by the draft FIS is inadequate. Wildlife is a major part of the renewable resources that the Forest Highway program is obligated to consider.

The finding of the U.S. Fish and Wildlife Service that consequences of the project will jeopardize the continued existence of the grizzly bear and the gray wolf cannot be side-stepped.

What plans have been made and what financial resources are available to enforce "no stopping" signs where grizzly bears are vulnerable (page 61)?

Increased development of private land will result in either increased expense to haul garbage out of the area or increased accumulation of garbage near cabins. Accumulation of garbage will result in more conflicts between grizzly bears and people, contributing to the jeopardy of the bear.

A wider cleared width for the road would increase visibility of wildlife, as stated on page 58. Increased visibility, however, would result in greater hesitancy by wildlife to cross the road, contributing to the road's effectiveness as an obstacle to wildlife movements.

Why were the Montana Department of Fish, Wildlife and Parks and the U.S. Fish and Wildlife Service omitted from the discussion of natural resources on pages 18-22 and pages 45-46?

In summary, the only undeniable factors in support of the Federal Highway Administration's expenditure of public funds to pave this road are a reduction in dust, financial benefits for private logging interests, and reduced cost to the County for maintenance. These benefits do not justify the substantial costs in terms of public services, safety, natural resources, and the tourist industry.

Sincerely yours,

Katherine L. McArthur

Katherine L. McArthur

Kolebridge, MT.
March 17, 1982

Mr. J.L. Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, Co. 80225

Dear Mr. Budwig,

One of the main issues in the argument on whether or not to pave the North Fork Road is economics. We are being told it will be cheaper to maintain a paved road and the DEIS is full of figures that are supposed to prove that. I wonder where they got their figures as the information I got is quite different.

According to the DEIS, to maintain the existing roadway at the current maintenance levels on Alternative A will cost \$40,847 a year. And the maintenance on Alternative C will be \$37,058 a year. According to Flathead County, yearly maintenance of the entire N.F. Road (all the way to the border, not just the 10 miles in question) was \$34,059 in 1980 and \$70,324 in 1981. That means that to maintain that 10 mile stretch when paved is going to cost more than it cost to maintain the entire N.F. road in 1980. Where did the DEIS get its figures?

Another statistic in the DEIS that I question is the \$1,000,000 difference between Alternatives C & D. A quick check with a local paving company revealed that 10 miles of 3 inch asphalt cannot be bought for \$1,000,000. Is the cost difference between C & D greater than we are being led to believe?

Economic are not the only figures being misrepresented in the DEIS. The average daily traffic figures are also incorrect. No one has bothered to do a comprehensive (i.e. winter count included) study on what the actual traffic is. The summer (high season) figures, according to the Montana State Highway Department, are lower than the DEIS year-round daily average. How can this be? The projected cost benefits are based on this figure which is wrong.

What are the actual construction and maintenance costs for this project, and does the actual traffic justify those costs? The credibility of the Environmental Impact Statement is at stake. I think the public is entitled to the truth before they have to make a decision. Until I get some better answers, I support alternative A.

Sincerely,

P. Ann Wilhelm
P. Ann Wilhelm

March 22, 1982

Mr. J.J. Budwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P.O. Box 25246
Denver, CO 80225

Dear Mr. Budwig:

Please consider the following comments on the Draft EIS "For Reconstruction of Montana Forest Highway Route 61, Flathead County Route 296" in preparation of the Final EIS. For the most part, these comments will pertain to the economic analysis used in the draft.

Economics and safety seem to be the only compelling arguments supporting improvement of the North Fork Road. The safety issue can best be met through Alternative E -- retention of a gravel surface with only spot improvements at hazardous sections. While paving might reduce the total number of accidents, the resulting increase in traffic volume and speed would surely increase the number of major accidents injurious to life and limb.

As a federal taxpayer, I resent the simplistic and misleading statement on page 7 that Alternative C is the best alternative in terms of economics (see below). From my perspective, spending 5 million federal dollars so that Flathead County can save an alleged \$139,000 in annual maintenance costs and road users can save an alleged \$1.36 - \$4.94 per trip, amounts to a very inefficient and unwarranted subsidy. If the Federal Government must subsidize the county and the users of the road, it would be much more efficient economically to invest the \$5 million and pay the county an annuity. At a conservative 10% interest rate, the county could receive \$500,000 per year. After spending \$177,000 for maintenance, the county could set up a reverse toll station at Canyon Creek to distribute the remaining \$323,000 to road users. At 300 ADP (the alleged economic capacity of the existing road), each user would receive \$2.95 as compensation for wear and tear

to their vehicle and reduced gas mileage over the 10 mile stretch. Perhaps this alternative should be further analyzed in the final EIS.

Further paving of the North Fork Road would accelerate pressures which are destroying home land for endangered species and other wildlife, and diminishing the value and pristine nature of the North Fork Valley. As part owner of most of the valley and surrounding mountains, I oppose any unnecessary reduction in these values. I suspect that many of the private landowners in the valley share my sentiments and choose to live there because of these values. Since safety can best be addressed through Alternative E, I see no reason for the Federal Government to subsidize the reduction of these values for the convenience of a less dusty drive, or to enhance the personal income of a few land developers.

Please respond to the following comments on the economic analysis used in the Draft:

Equity

The text discussing the economic analysis is very unclear and misleading regarding who pays for what and who benefits by what amount. The Final should include a clear discussion of groups involved (Federal Government, County, logging users, other users).

Economical Capacity (p. 5)

Please define and discuss economical capacity.

Discount Rate

The Forest Service analysis in the Appendix mistakenly cited FS-4 1971.51 as requiring a 4% discount rate. The FS-4 directions for discount rate appear at FS-4 1971.71 and call for use of both 4% and 7 1/2%. The use of only one low discount rate does not allow a sensitivity test and tends to favor alternatives with high initial costs and low annual costs over alternatives with low initial costs and higher annual costs. Thus, selection of the lowest possible discount rate appears to show a bias in favor of paving. As shown below, use of higher discount rates gives a very different picture of the relative economics of Alternatives A, C and E. (The following figures were derived using the same values and methodology employed in the Forest Service analysis.)

Net Present Worth Cost (million \$)

	4%	7 1/2%	10%
Alt. A	-8.3*	-6.3	-5.1
Alt. C	-6.6	-6.5	-6.4
Alt. E	-9.3	-7.2	-6.5

*The Forest Service analysis incorrectly used \$40,847 for annual maintenance of Alternative A. The correct figure derived on page A-22 is \$176,697.

The Final should include sensitivity tests using 7 1/2% and 10% discount rates and should discuss and justify the rate selected. The Office of Management and Budget has held for several years that Federal projects should be evaluated at 10%. What discount rate is normally used for FHWA projects, and what are the regulations concerning the FHWA and project analysis discount rates?

Benefits

The use of recreational visitor value forgone by Alternative A as a benefit for all other alternatives involves two spurious assumptions.

The first is that the existing road has a capacity (315 ADT) below recently experienced use (390 ADT in 1979) that will not be exceeded without road improvements. Second, the recreational visitor value assumes that this use above current capacity will consist of recreationalists who would not come to the Columbia Falls/West Glacier/North Fork area if the 10 mile stretch is not improved. Much of the potential increased traffic is attributed to the use of a paved scenic loop from West Glacier to the Camas entrance, and then down the North Fork. The analysis thus claims as benefits motorists already in the area who would choose to complete the loop rather than back-track on the paved park road. This represents no real increase in tourist dollars to the local community.

The analysis would be more defensible if it omitted this recreational value forgone as a benefit. Instead, Alternative A

should be set as the no-change alternative and any reduction in costs resulting from implementing another alternative should be considered a benefit of that alternative.

Costs

Another spurious assumption is used in calculating annual maintenance costs for each alternative. The costs used represent the highest possible costs using Forest Service standards. While the Forest Service estimated maintenance costs of \$176,697 per year for the existing ten mile stretch, the county is responsible for maintenance and experienced \$70,000 actual maintenance costs in 1931 for the entire 57 miles of North Fork Road. In 1990, the county only spent \$4,000 for maintenance on 57 miles of North Fork Road. The Final should identify and use actual expected county costs, not those projected by the Forest Service.

Once proper costs are established, Alternative A should be set as the no-change alternative, and the other alternatives should be evaluated in terms of A. Only costs above those expected for A should be counted as costs, while expected savings over A should be counted as benefits.

Also, the Forest Service seems to have used 63 ADT for log trucks, rather than the 25 ADT given on pages 6 and A-20. This would tend to over value the costs associated with the gravel alternatives, since log truck user costs are significantly higher than costs for the other categories of users on gravel roads, while costs are similar for all categories of users on paved roads.

Traffic Volume

Sensitivity tests should be made on the traffic volume assumptions. Using only the highest projected volumes indicates a pre-selection bias for the paved alternatives. Paving is given lower per unit user costs. This means that as traffic volume increases, user costs for paved alternatives will increase less rapidly than for gravel alternatives.

As electricity planners in the Pacific Northwest are now well aware, projecting straight line historical increases in demand can lead to embarrassingly inaccurate predictions, even when such predictions embody an element of self-fulfilling prophecy. Assuming that paving will lead to full development of the North Fork area should be checked against an assumption that

full development will not be reached. The results of all sensitivity tests should be discussed in the text of the Final EIS, not buried in an appendix.

Finally, as an illustration of how changes in some of these assumptions would change the conclusions drawn from an economic analysis, the net present worth for alternatives A, C, and E shown below is calculated using the following assumptions.

- 1) Construction costs will remain the same, but maintenance costs will be more reflective of actual experienced county costs. \$70,000 for 57 miles is \$1228/mile, rounded up to \$1500 gives \$15,000 for the existing road segment. The maintenance costs for gravel Alternative E will be assumed to be equal to the existing road. The Forest Service estimated that maintenance for Alternative C would be 21% of Alternative A; 21% of \$15,000 is approximately \$3,000, or a \$12,000 annual maintenance savings for C; no change for E.
- 2) Current traffic volume is approximately 300 ADT. Assume an increase to year 2004 of 128 for Alternative A, 145 for Alternative E and 162 for Alternative C. This gives annual ADT increases of 6.40 for Alternative A, 7.25 for E and 9.10 for C. Assume a constant 25 ADT log truck and 25 ADT logging associated for all alternatives.
- 3) Benefits from user costs saved are derived below.

	User Costs				E	
	A		C		Savings from A	Savings from A
	Unit	Cost	Unit	Cost	Unit	Cost
Log Truck	9,125	7.64	9,125	2.80	44,165	9,125
Log. Assoc.	9,125	4.75	9,125	2.93	16,609	9,125
Other	91,250	2.85	91,250	1.49	124,100	31,250
Total Annual Benefit					194,873	
Annual Increase	2,336	2.85	2,956	1.49	2,253	2,646
						2,31
						545

- 4) The present net worths for alternatives C and E shown below are derived using the same methods employed in the Forest Service analysis. Since Alternative A in the no-change alternative, it has a zero present net worth.

	Present Net Worth (thousand dollars)					
	Alt. C			Alt. E		
	4%	7 1/8%	10%	4%	7 1/8%	10%
Reduced Maintenance	163	126	102	0	0	0
Reduced Ann. User Costs	2,512	1,939	1,573	749	577	449
Reduced Ann. Increase	251	172	125	61	42	30
Total Benefits	2,926	2,237	1,800	809	619	479
Construction Costs	-5,000	-5,000	-5,000	-2,500	-2,500	-2,500
Present Net Worth	-2,074	-2,763	-3,200	-1,691	-1,881	-2,002

Thus, under different assumptions, Alternative E clearly has a smaller present worth cost than Alternative C, costing \$400,000 less at the 4% discount rate and \$1,200,000 less at the 10% discount. While paving may save some money for Flathead County and users of the North Fork Road, I don't feel that such a massive subsidy is warranted, especially when it would cause so much disruption to wildlife and other important aspects of the North Fork Valley.

I suggest that the Final EIS fully discuss the sensitivity

of the economic analysis to potential variability in the assumptions used. The Final should refrain from implying that economic analysis supports one alternative over another, without a complete discussion of the potential variability in, and sensitivity to, the assumptions used.

Thank you for considering these comments.

Sincerely,

Terry Egenhoff

Terry Egenhoff

908 S. 6th W.

Missoula, MT 59801

Dear Mr. Aubrey;

March 16, 1982

I oppose the paving of the North Fork Road (Montana Forest Highway 361) because of the cumulative encroachment threats to Glacier National Park, and for the following reasons:

A. Total & complete lack of need.

B. Far low priority for my tax dollars.

C. Glacier National Park was determined by the Department of Interior to be the most threatened of our National Parks.

D. Would certainly jeopardize the continued existence of the Grizzly Bear & Gray Wolf.

The North Fork Valley is today, wild & remote, inhabited by a rich diversity of Wildlife found in very few areas of the United States. It is a last stronghold of the Grizzly Bear.

Having read the draft WRS, I do not believe it is in compliance with the Endangered Species Act. I fully support Alternative D (not improve to satisfy safety requirements, No paving)

Sincerely,

Donald E. DeMars

Donald E. DeMars

560 Holt Drive

Bigfork, Montana 59901

Ron Wilhelm
Polebridge, Montana
March 15, 1982

Mr. J.L. Rudwig
Division Engineer
Central Direct Federal Division
Federal Highway Administration
P. O. Box 25246
Denver, Colorado 80225

Dear Mr. Rudwig:

I am a year-round resident of the upper North Fork valley and I am opposed to the proposed paving of the North Fork road, both the section under discussion, and any other section of that road.

I agree with the Fish And Wildlife Service when they say that paving will "... adversely impact existing fish and wildlife resources".

From the standpoint of the administration of Glacier National Park, paving the North Fork road does not make good sense, and I agree.

Having read the Draft EIS and knowing the situation from living on the North Fork, the economics of Alternative C do not make good sense.

And of prime concern to me, looking at the safety aspect, paving the North Fork road makes no sense at all.

In fact, thru the figures presented in the DEIS, it is clearly stated, we will have a more dangerous road if we allow the paving to happen. The DEIS claims safety is of the utmost importance in the decision to pave the road. Yet, I am sure no one bothered to look closely at the statistics on page 7, statistics on traffic accidents on the North Fork road.

The DEIS makes a big point of the number of accidents on the unpaved section of the road being twice that of the paved section. What should be more important to all of us is the severity of the accidents, and the statistics presented don't speak well for more pavement.

According to the figures, a person is 50% more likely to be injured while driving the paved portion of the North Fork road in comparison to the gravel portion. And the fatality rates are even worse. The paved part is five times as dangerous to drive as a similar road statewide. The fatality rate on the gravel road is zero. Pavement is not inherently dangerous, but it is driven at a faster rate of speed than a gravel road. As you should well know, and these statistics prove out, SPEED KILLS! The road is already being driven in excess of 35 mph by many who use it, page 61 of the DEIS, pave it and you will encourage all who use it to speed up. And we will soon have injury and death rates to match those on the existing paved section of the North Fork road.

Page Two
March 15, 1982

It is only human nature to drive faster on a paved road. The Forest Service admits, on page 71, Par. 6, that its' personnel will travel the road at a greater rate of speed after paving. They say, and I quote "Travel time to all areas north of Canyon Creek will be reduced. This reduction in travel time will result in reduced administrative costs". They now travel that road at at-least 35 mph. To save costs they will be forced to drive the road in excess of the posted 35 mph speed limit. I suggest they look elsewhere to save administrative costs, and help us to save life and limb on the North Fork road.

The impact statement does not deal with the problem of law enforcement. Are the county tax payers ready to foot the bill for the additional law enforcement needed for a paved highway up the North Fork? If the county has no money to maintain the road, where will it find the necessary funds to patrol the road?

According to the figures presented in the DEIS on page 80, it will cost \$37,500 per year to properly maintain the ten miles of paved road from Canyon Creek to Camas Creek. From county records, we see the county spent approximately \$12,000 to maintain this ten miles of road. It appears it will cost more to maintain the paved road than we now spend. Can we afford this increase along with the additional costs of law enforcement?

I am opposed to the paving of the North Fork road until the both the need and the effects of paving are established.

I suggest Alternative H
Sincerely,
Ron Wilhelm

Ron Wilhelm
Polebridge, Montana

Member North Fork Preservation Association

J. L. Budwig

Page 2

March 2, 1962

wants non-development and travel roads. In a democratic form of government, doesn't the majority rule?

I agree with Dr. Lex Blood who suggested at the Public Hearing that no major action be taken until the Flathead River Basin Environmental Impact Study is completed, one year from now. I believe that in time all agencies and the public can cooperate and come up with a plan of development (or non-development) which is agreeable to the majority. It is obvious from the hearing on March 17 in Columbia Falls that the majority of State and Federal agencies and the public are opposed to Alternative C--pavement.

I hope you'll include this testimony in your final Environmental Impact Statement.

Sincerely,



Karen Feather
POLEBRIDGE RESERVE

March 26, 1962

POLEBRIDGE, MONTANA 59728

Mr. J. L. Budwig, Division Engineer
Central District Federal Division
Federal Highway Administration
P. O. Box 25246
Denver, Colorado 80225

Dear Mr. Budwig:

I own and operate the major business of the North Fork, the Polebridge Mercantile, a country store built in 1914 and still maintaining that "country" character. My business is 90% tourist--the tourist who wants the seclusion of an area like this and who would not come here if there were more people and "nicest" asphalt, electricity, etc. The majority of store patrons I've questioned prefer the road remain unpaved. A gentleman whose business is driving the road 2 to 5 times a week, year-round, suggested the road paving was only a beginning and the only solution to the problem as he saw it was to close the border. The majority of people traveling the road for pleasure are against pavement.

Sixty-eight percent of the permanent population living in the North Fork Valley met or sent representatives on March 13 and formed the North Fork Preservation Association. Although we are the victims of debilitating "fugitive dust," caused by county commissioners who want a paved road so refuse to dust coat, we still oppose pavement! Our primary argument against pavement is the reality of overdevelopment. Although we believe economic, aesthetic and safety considerations point toward non-pavement, the probable exploitation of the North Fork Valley by Canadian strip mines and oil and gas interests--bringing with them the usual boom town activities and degradation--necessitates a resounding NO to any development, including paving. The majority of us don't want to be another Gillette, Wyoming.

Flathead County has refused to do any type of dust abatement measures the past several summers because of lack of funds (or so they say). However, the County just plowed the snow for the final five miles to the border to enable Signal Exploration to do seismic testing. This five miles has not been plowed since December so there was two to four feet of snow on the road, making it an expensive job, taking at least five days with some equipment breakdown.

The Forest Service seems unnecessarily concerned about finding a buyer for the taxpayer-subsidized Ketchikan Timber Sale which will result in 14 miles of permanent road; which in perhaps incentive for further gas/oil exploration in that particular area not yet leased?

I believe the County and the Forest Service (the only major asphalt prologists) are attempting to sell out the North Fork Valley to powerful moneyed interests and/or to bring money into the Flathead Valley from Canada, logging and mineral development. To encourage this flow of money into the valley, they feel they need a paved road--in direct opposition to other involved Federal agencies and public opinion.

I wouldn't find the paved road so objectionable if more people appeared to favor it--whatever their reasons. But the truth as I see it, is the majority

Mr. J.L. Budwig
Division Engineer
Federal Highway Administration
PO Box 246
Denver, Colorado 80225

Dear Mr. Budwig:

I am in support of Alternative E as the best alternative listed in the Draft E.I.S. on the North Fork Paving Project

I do not believe the Federal Highway Administration's report has taken a satisfactory look at the wildlife issues. The U.S. Forest Service and the Highway Administration are contradictory in their analysis of the impacts on wildlife and the overall North Fork area.

Furthermore, the U.S. Forest Service, the agency which has congressional charge of the Wild and Scenic Rivers, seem to be in direct conflict and violation of the Wild and Scenic Rivers Act under their preferred alternative, C.

In addition, the U.S. Forest Service seems to be in violation of the endangered species act. This agency carries a multiple use doctrine. Within the Glacier View Ranger District several species of animals are protected under this act. Therefore, their preferred alternative (C) conflicts with the Endangered Species Act.

The Forest Service is ignoring their duties to protect these valuable resources, and in fact, have been scaling up rapid development in the way of timber sales of monstrous proportions and the probability of gas and oil leases. These, along with the North Fork road paving are all in direct conflict with a sound, reasonable management plan that would protect all resources from over exploitation.

Sincerely,

Frank J. Vitale

Bear Rt.
Colebridge, WY 83008

March 17, 1982

March 12, 1982

P.O. Box 25
Dayville, Or.
97825

Mr. J.L. Budwig
Federal Highway Admin.
P.O. Box 25246
Denver, Colo. 80225

Dear Mr. Budwig:

I am writing to inform you why I am against the paving of the North Fork Road and support Alternative E. I believe paving the road would open up the area to much development both for recreation-al homes and energy exploration. This development would be adverse to the wildlife of Glacier National Park (white-tail deer, mule deer, elk, moose and grizzly bear) that depend on the North Fork Basin for critical winter and spring habitat.

Do not let the interest of a few threaten the wildlife generations of Americans could enjoy. Please include this letter in the EIS.

Sincerely,

Berta Youffe
Berta Youffe

J.L. Budwig
 Division Engineer
 Federal Highway Administration
 555 Garfield St., P.O. Box 25246
 Denver, Colorado 80225

March 21, 1982

Dear Mr. Budwig:

I am writing to you in regard to the North Fork Road Paving Project. I feel that the Draft Environmental Impact Statement does not adequately address the U; Fish and Wildlife Service's Jeopardy opinion of the threatened and endangered grizzly and gray wolf; Glacier National Park's wilderness management of the North Fork area; the effect on the Wild and Scenic River management of the North Fork River; the effect on critical whitetail deer habitat between Big Creek and Camas Creek.

The D.E.I.S. states that more accidents occur on section of the road that are paved. I cannot believe that paving this 10 mile section of road is in the best interest of the people who use it. It certainly would not make it safer.

I also question the travel figures given in the D.E.I.S. After examining the Glacier National Park travel figures for Camas and Polebridge entrances (from 1967-1981) there is absolutely no consistency in the rate of increase, but rather, a great amount of fluctuation and decrease. How do you arrive at a 300 ADT figure?

The D.E.I.S. does not look at the cumulative effects of road paving in this area. Indeed it does state that travel and development will increase at a faster rate if the road is paved. But it does not address the fact that the county cannot meet the additional law enforcement that would be required for the area (as stated by County Commissioner, Henry Oldenberg at the Public Hearing 3/17/82.). Paving would also cause increased pressure on the fishing and hunting in the area. This would result in deregulation of the fishing/hunting season; increases in poaching; additional game wardens for the area (which is not possible under the budget restraints they are experiencing).

Paving also enhances the probability of use of the road for Canadian coal export.

These are just a few of the off shoots that are related to the North Fork Road paving. The North Fork is a unique area that needs special attention and protection. It is the last remaining stronghold for grizzly in the contiguous U.S. This area is part of the World Biosphere reserve. Glacier National Park and the North Fork River with its status in the Wild and Scenic River system are its eastern boundary. The D.E.I.S. does not consider this in its evaluation, thereby revealing its biased/incomplete approach to the D.E.I.S.

and finally, the D.E.I.S. does not take into account a complete choice of alternatives as required by law. The alternatives are lacking by not including dust coatings and blading in any of their unpaved alternatives. I would like to see additional alternatives, similar to "A" and "E", but with provisions for dust coating and blading.

Sincerely,

Ellen Horowitz
 Ellen Horowitz
 Polebridge, MT 59928

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UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE

Billings Area Office
316 North 26th Street
Billings, Montana 59101-1396

IN REPLY REFER TO:

SE

April 28, 1982

Mr. J. L. Budwig, Director /
Office of Federal Highway Projects
Federal Highway Administration
555 Zang Street
P.O. Box 25246
Denver, CO 80202

Mr. Tom Coston, Regional Forester
U.S. Forest Service
Federal Building
P.O. Box 7669
Missoula, MT 59807

Dear Messrs. Budwig and Coston:

This is the Fish and Wildlife Service's (FWS) biological opinion prepared in response to FHWA's January 22, 1982, request for reinitiation of formal consultation on the effects the proposed reconstruction of Montana Forest Highway Route 61 (FH-61) will have on the threatened grizzly bear (*Ursus arctos horribilis*) and the endangered gray wolf (*Canis lupus irremotus*). The FWS has examined the proposed project in accordance with Section 7 Interagency Cooperation Regulations (50 CFR 402, 43 FR 870) and the Endangered Species Act as amended. This biological opinion refers only to the potential effect on the grizzly bear and gray wolf and not the overall environmental acceptability of the proposed action.

Biological Opinion

It is the Service's biological opinion that implementation of Alternative C of the DEIS prepared for the reconstruction of FH-61 is likely to jeopardize the continued existence of the grizzly bear and gray wolf. It is also our biological opinion that implementation of Alternatives D or E is not likely to jeopardize the continued existence of the grizzly bear and gray wolf.

Project Description

The proposed action involves the reconstruction of FH-61 between Canyon Creek and Camas Junction to a gravel or paved two-lane standard that will safely accommodate existing and future traffic volumes. Major construction activities will include grading, installation of new drainage structures, and gravel surfacing or asphalt paving.

Alternative C, the preferred alternative identified in the DEIS, would rebuild the road to a 35 mile-per-hour design speed with an asphalt paved surface closely following the existing alignment. Alternative D would rebuild the road to a 35 mile-per-hour design speed with a gravel surface closely following the existing alignment. Alternative E would rebuild the road to a 35 mile-per-hour design speed with a gravel surface only in critical areas (spot improvement).

Cumulative Effects

In addition to the direct and indirect effects of the proposed project discussed in the following section, the cumulative effects of a number of other activities were considered in the formulation of this biological opinion. The scope of our analysis of cumulative effects is set by the August 27, 1981, solicitor's opinion, Associate Solicitor, Conservation and Wildlife, regarding cumulative effects to be considered under Section 7 of the Endangered Species Act.

Projects considered were the North End Salvage Sales (FWS biological opinion rendered on May 26, 1980), actions carried out under Project Cooperative Agreement No. 17, County of Flathead, U.S. Forest Service, North Fork Road No. 210, and the Sage Creek Coal Project, British Columbia, Canada. Impacts from these activities were considered in determining the environmental baseline from which the direct and indirect effects of paving FH-61 were measured.

Basis of Opinion

On July 14, 1980, the FWS rendered a "jeopardy" biological opinion for the grizzly bear and gray wolf on a proposal by FHWA to reconstruct FH-61 using the following design specifications:

- design speed of 40-50 miles-per-hour
- two 12-foot paved travel lanes
- two 3-foot paved shoulders
- two 4-foot graveled side slopes (5:1 slope)
- one or two 7-foot ditches
- variable slope/width backslope areas

Alternative C, the preferred alternative identified in DEIS, has the following design specifications:

- design speed of 35 miles-per-hour
- two 12-foot paved travel lanes
- two 2-foot paved shoulders
- 4:1 roadway slopes
- 10 foot wide ditch
- 70 foot average width of cleared area

Both proposals would closely follow the existing alignment with minor relocations for safety and operational improvement. Thus, Alternative C is nearly identical to the original proposal, and as displayed in the DEIS, will result in impacts similar to those considered in the 1980 consultation. Signing the road (which if paved would handle vehicular speeds of 50 miles-per-hour and greater) to a 35 mile-per-hour speed and reducing the width of the paved shoulders by a foot will have little or no effect in reducing the direct and indirect impacts on bears and wolves.

The conclusion of the July 14, 1980, opinion that paving FH-61 would likely jeopardize the grizzly and wolf was based largely on the indirect effects of the project and the cumulative effects of actions carried out under Cooperative Agreement No. 17, North Fork Road No. 210. The indirect effects of major concern are those impacts associated with improved access to the North Fork Valley. Paving is expected to facilitate and provide an incentive for increased subdivision and development of private lands in the North Fork Valley, and result in increased recreational use of the North Fork Valley.

The effects that improved access (by paving) are expected to have on land values, and rates of subdivision and development on private lands in the North Fork Valley, are demonstrated by examining the history of the Tri-Lakes area adjacent to FH-61 between Columbia Falls and Canyon Creek. This section of FH-61 was upgraded from a 19 foot wide gravel surface road to the present 32 foot wide paved highway in 1972 (construction completed in 1972). In 1965, a developer purchased private land in the area of Spoon Lake, Bailey Lake, and Duck Lake for \$100 per acre. The area was subdivided in 1966 and the plat recorded in 1967. Figure 1 indicates the number of individual lots sold each year, and the percentage of lots sold each year based on the number of lots available for acquisition. Except for initial speculative buying by the First Bank of Spokane (25 lots purchased in 1968) in the first year following plat recording, the number of lots sold remained stable through 1972--the year paving was

completed to Canyon Creek. Thereafter, the number of lots sold each year steadily increased (except in 1974) until all lots in the subdivision were sold. Trend line analysis (figure 2) demonstrates the difference in the rate at which lots were selling prior to paving and after paving. The slope of the trend line for those years prior to paving is 0.2 as contrasted to a slope of 2.1 for the trend line for years after paving.

The growth in land values (based on a sample of actual sales) for both lake frontage lots and view lots in the Tri-Lakes subdivision is demonstrated in figures 3 and 4. View lots that were selling at an average of \$287 per acre on the 1968-1969 market are now selling between \$3,000 and \$4,000 per acre. Lots with lake frontage are currently being listed for up to \$15,000 per acre. We recognize that there are factors other than the paving of FH-61 that have also contributed to high growth rates in land values, but paving is certainly an important contributor. In contrast, in the North Fork Valley where road improvement (by paving) has not yet been accomplished, the trend in sales of subdivided parcels of land is stable. Figure 5 indicates this trend for the Kinerly View Subdivision, North Fork Valley. Areas such as Star Meadows and Good Creek in Flathead County, which contain private land surrounded by public land and which are accessed by gravel surfaced roads, similarly have not experienced high rates of development. Other similar examples throughout the state could be referenced. Thus, there is a differential "rate of development" between areas accessed with high standard paved roads and those which are not. The nonpaving alternatives (Alternatives D and E) are expected to help retain the present stable trend in subdivision and development in the North Fork Valley and not result in the increased growth rates experienced in areas that are accessed with high standard paved highways.

Because subdivision and development of private lands appear imminent with the paving alternative, the location of private land in relation to important grizzly bear habitat components is critical in evaluating the impacts to bears. Studies by Jonkel et al. 1981, 1979, Singer 1978, Riggs (undated), and others indicate the high value of the North Fork floodplain as grizzly spring and fall ranges. Due to the snow cover at upper elevations, grizzly bear spring ranges are greatly restricted to low elevational open sidehill parks, avalanche chutes, ungulate winter ranges, and riparian zones in low elevation drainage bottoms. After den emergence, bears move down to the North Fork floodplain where they feed heavily on succulent herbaceous plant material and the carrion of ungulate winter kills. After den emergence, grizzlies may be 25-40 percent lighter in body weight, depending on their age and reproductive condition, than the previous fall (Folk et al. 1977, Kingsley et al. 1980, Sizemore, 1980). Areas are required during this critical period where they can feed undisturbed to meet their nutritional requirements.

In the fall, the bears again generally move from the higher elevations to the floodplain after the first hard frost and are normally feeding on the floodplain from mid-September to early November. Use of these low elevation fall ranges is essential in order to acquire the necessary weight gains needed for winter survival and successful reproduction by the females. Rogers (1976) found that female black bears that did not gain sufficient weight prior to denning usually failed to produce cubs.

To evaluate the potential impacts of development on the grizzlies and their spring and fall ranges in the North Fork, we mapped the mesic and hydric cover types (the areas in the floodplain most productive in bear foods) in a 133 square mile river corridor from Canyon Creek to the U.S./Canadian border as indicated by figure 6. The hydric/mesic and hydric cover types were identified from the riparian habitat mapping conducted for the Flathead River Basin Study. Figures 7 and 8 illustrate the mapping procedure. The non-shaded areas represent the hydric/mesic and hydric cover types (high bear food production areas) and the shaded areas represent the xeric and xeric/mesic cover types (areas with lower bear food production) as identified in Table 1. Burns less than 20 years old were included in the high bear food production category because they represent ungulate winter ranges and as such are used by grizzlies as key foraging areas in the spring.

The mapping procedure resulted in the following:

- 85,109 acres in the analysis area
- 1,939 acres of river or other bodies of water
- 40,021 acres of mesic habitat (high bear food production areas)
- 43,149 acres of xeric habitat (low bear food production areas)
- 16,489 acres of private land
- 7,413 acres of mesic habitat (high bear food production areas)
in private ownership

The results indicate that 48 percent of the analysis corridor consists of mesic sites producing high value bear foods and that 18.5 percent of these mesic sites are under private ownership. These data confirm the high value of the North Fork floodplain as a vital food source for grizzlies and the potential threat to grizzly use of it due to a significant portion of the bottom land/floodplain under private ownership. The relationship between the analysis corridor (floodplain and bottom-land), the home ranges of seven radio-collared grizzlies, and private lands is illustrated figure 9. Studies by the Border Grizzly Project (Jonkel et al. 1981) indicate that the density of grizzlies in the North Fork Valley may approach one bear per square kilometer during certain periods of the year (seasonal density). Recorded observations of grizzlies for the period 1977-81 inside Glacier N.P. and 1977-79 outside the Park are shown in figure 6.

High recreational use and development of private lands in the North Fork Valley can be expected to result in (1) co-location of people and grizzlies in areas critical to the bears' survival, (2) displacement of grizzlies from important spring and fall ranges during critical use periods and, (3) physical removal of habitat critical to the grizzly's survival and recovery. Grizzly bear/people management over the past decades has established the fact that when people and grizzlies are placed in situations of co-habitation, the innate behavior of both bears and/or humans leads to deleterious conflicts in which the bear is generally relocated or destroyed. Martinka (1982a) has demonstrated that grizzly/people confrontations are correlated perfectly ($r=1.00$) with the level of visitation to Glacier N.P. and that park data suggests a fundamental relationship between numbers of park visitors (cause) and numbers of confrontations (effect). Correlations between grizzlies removed from the park population through management control actions and the level of visitation as well as bears removed and confrontations were also perfect ($r=1.00$).

These data indicate that increasing human access in essential grizzly bear habitat will have deleterious effects on the bear population by accelerating human-induced mortality. Grizzly mortalities in a 10 kilometer corridor peripheral to Glacier National Park are more than 10 times greater than in the Park (Martinka 1982b). This difference reflects the degree of access to areas peripheral to the Park and land uses that occur. While Park access has changed little since 1938, peripheral access nearly doubled between 1938 and 1969, a reflection of expanding timber harvest, agricultural activities, and roads (Martinka 1982b).

Analysis of the present status of the grizzly population in the Northern Continental Divide Grizzly Bear Ecosystem (NCDGBE) indicate that the population is heavily impacted by human-induced mortality and that the present level of annual human-caused mortality may be approaching or exceeding the theoretical tolerance limits for this population (Servheen 1980, Martinka 1982b). Table 2, excerpted from Martinka (1982b), provides a summary of documented unnatural grizzly bear mortality in the NCDGBE from 1971-80.

Recent modeling work to manage the grizzly in the Yukon (Sidorowicz and Gilbert 1981) has shown that adult (3.5 years and older) mortality above five percent of the adult population per year will exceed recruitment, reduce reproductive output, and cause population decline. Based on these modeling efforts, it was recommended in the Yukon that the sport harvest (which makes up almost all human-induced mortality in the Yukon as poaching is minimal and nuisance bears are rare) be limited to two to

three percent of the adults. The present population of the NCDGBE is estimated to be between 440 and 680 bears (Grizzly Bear Recovery Plan). Using the Yukon analysis and the maximum population estimate of 680 grizzlies and assuming 60 percent of the population is adults, we can see that the NCDGBE population cannot sustain an average loss of more than 20.4 adults per year without decline ($680 \times .60 \times .05 = 20.4$). Using the conservative estimate of 440 bears, no more than 13.2 adult bears per year could be removed ($440 \times .60 \times .05 = 13.2$). Annual confirmed losses of adult age classes (3+ years) in the NCDGBE range from 10 to 22 and have averaged 15.6 over the six year period from 1975-80 -- an average annual loss of 3.8 to 5.9 percent of the estimated adult segment of the NCDGBE population. Annual confirmed losses of all age classes range from 14 to 36 and have averaged 22.6 over the 10 year period from 1971-80 for an average annual loss of 3.5 to 5.0 percent of the estimated NCDGBE population (Martinka 1982b). "Mortality rates within Glacier National Park remain well within the five percent acceptable limit. However, an increasing trend plus the influence of peripheral losses point to an uncertain future. For the present, park losses are mediating regional losses, resulting in overall mortality at or below the allowable removal rate. It is possible that emmigration from the park is bolstering the peripheral population, thus permitting sustained unnatural losses at higher than the 5 percent limit" (Martinka 1982b). Recruitment, however, to the U.S. segment of the North Fork population can be expected to be further reduced due to the impacts of the Sage Creek Coal Mine Project near the confluence of Howell and Cabin Creeks approximately six miles across the U.S./Canadian border. The coal mine is expected to impact 12 to 16 percent of the estimated (Canadian) Flathead Valley grizzly population of 50-60 animals (Stage II Environmental Assessment-Sage Creek Coal Project).

Examination of mortalities in the North Fork drainage/Hungry Horse/West Glacier area between 1975 and 1981 indicates that 64 percent of the mortalities (25) were a result of conflict with people and illegal kills. Under the paving alternative, these conflicts are expected to increase and push the level of man-caused mortality above the acceptable limit.

Growth and development of the North Fork must be directed in a manner so as to reduce man-caused mortality of grizzly bears and wolves through reducing the number of direct human/grizzly/wolf confrontations. An evaluation of subdivision activities in Flathead County by the Flathead Regional Development Office, however, showed that under present state and county regulations governing land subdivision, land use review and

technical planning is non-existent for the majority of acreages divided. Under the Montana Subdivision and Platting Act as amended, the creation of parcels 20 acres or larger requires no review by local government and with the use of exemptions provided by this Act (occasional sale/remainder; family conveyance) most divisions, including those under 20 acres, receive no land use review or technical planning. The DEIS on pages 63-65, implies that the mitigation measures being taken by the Forest Service for actions they authorize, conduct, or fund, will reduce the overall impact from paving to a level that will not jeopardize the grizzly and wolf. These measures, however, will not replace grizzlies and wolves that are lost to the population as a result of numerous "mortality sumps" created by the paving proposal, nor replace floodplain habitat removed from grizzly/wolf use. Before approval of an alternative to pave FH-61, an avenue for resolving indirect impacts created by paving must be identified and placed into effect.

The indirect effects of the proposed paving alternative discussed above for the grizzly are also applicable to the wolf. They are expected to result in increased human/wolf encounters, and consequently result in man-caused mortalities at levels that will preclude pack formation and establishment of a viable population. The July 14, 1980, biological opinion further summarizes the impacts/effects the paving proposal will have on the wolf.

In summary, we conclude the following:

- (1) a differential rate of development and growth can be expected between the paving and non-paving alternatives, with the paving alternative resulting in greatly increased rates of growth.
- (2) development of lands under private ownership will physically remove and preclude grizzly use of significant portions of the North Fork bottom land/floodplain.
- (3) the expected growth and development under Alternative C, if uncontrolled and nonregulated, will result in man-caused mortalities, that cumulatively with the present known level of annual mortality, will exceed the theoretical tolerance limits for the NCDGBE population.
- (4) under present state and local government regulations governing subdivisions, no planning process exists for directing and regulating growth and development in a manner that assures compatibility with grizzly/wolf conservation and recovery.

(5) Forest Service mitigation measures for their activities will not compensate the losses to the grizzly/wolf populations sustained as a result of paving nor replace the loss of grizzly/wolf habitat on the North Fork bottom land/floodplain.

Based on the above considerations, the FWS concludes that the effects of paving FH-61 on the numbers, reproduction, and distribution of the grizzly bear and gray wolf are at a level that will jeopardize the continued existence of these species.

Reasonable and Prudent Alternatives

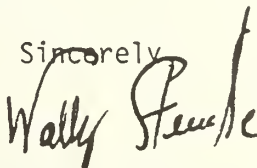
Pursuant to Section 7(b) of the Endangered Species Act, as amended, the following alternatives provide a course of action that will avoid jeopardizing the continued existence of the grizzly bear and gray wolf, and which can be taken by the FHWA in implementing the proposed road reconstruction:

1. Alternative D of the DEIS
2. Alternative E of the DEIS

Selection of Alternative C would require, prior to project approval, the establishment and implementation of an avenue for effectively resolving the jeopardy condition created by the indirect effects of paving as identified and discussed in this biological opinion. Successful resolution will require land use planning crossing Federal, state, and county jurisdictions and involve various forms of land use restrictions and controls.

This completes the FWS biological opinion on the effects the proposed reconstruction of FH-61 will have on the grizzly bear and gray wolf. Formal consultation will be completed when FHWA has responded to the Fish and Wildlife Service with a written notice stating its determination to proceed, modify, or forego the action, in light of its Section 7 responsibilities and this biological opinion.

Sincerely,



Wally Steucke
Area Manager

Figure 1

A10

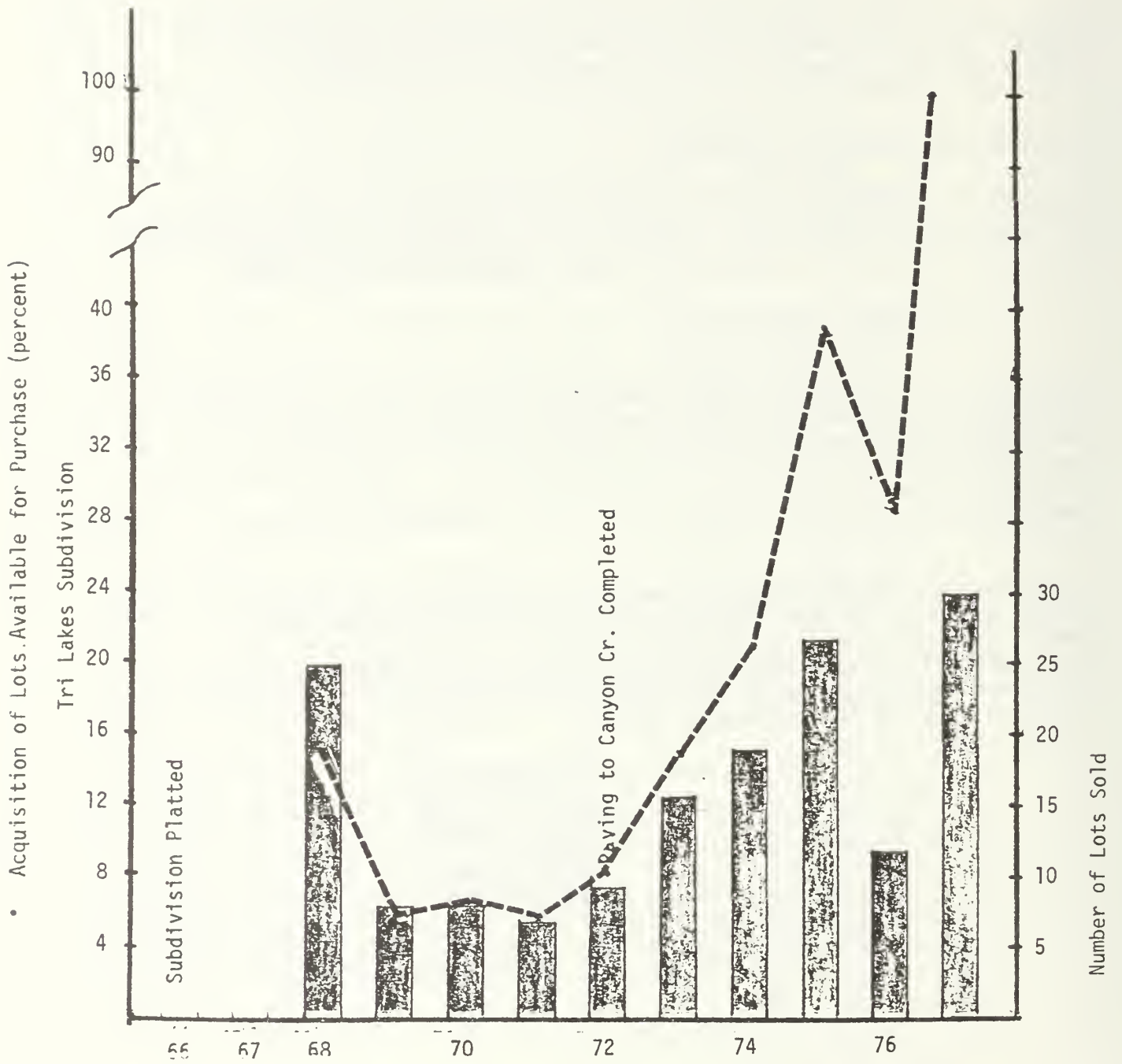
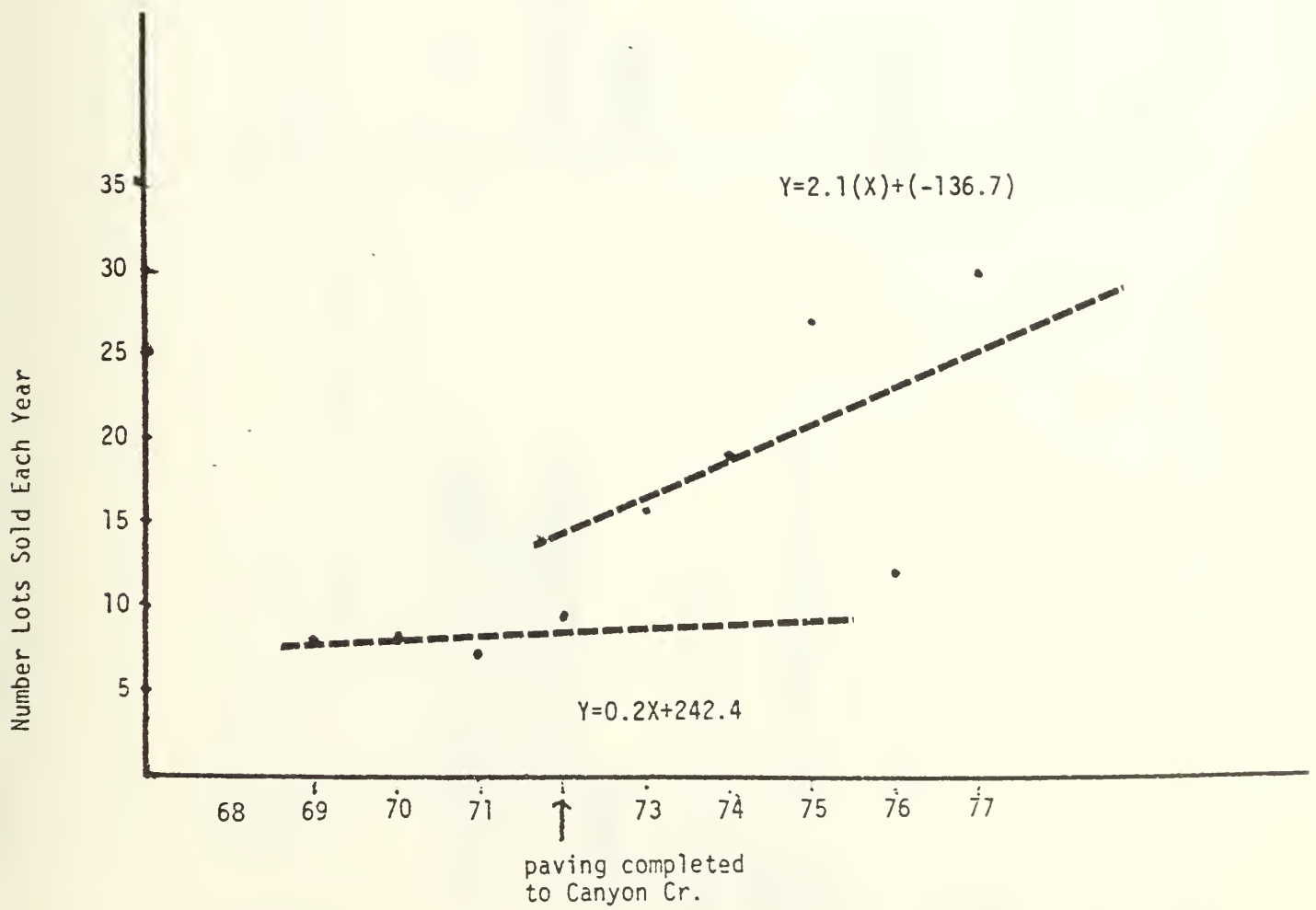
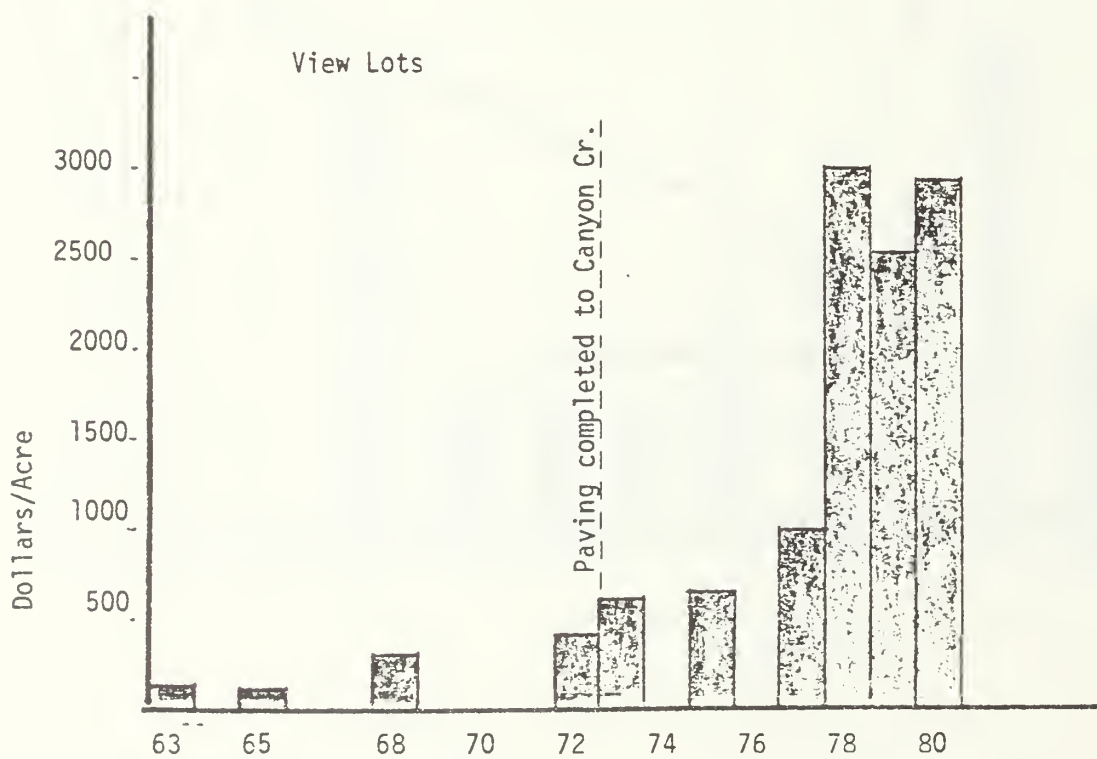


Figure 2



Land Values Based on Actual Sales - Tri-Lakes Subdivision



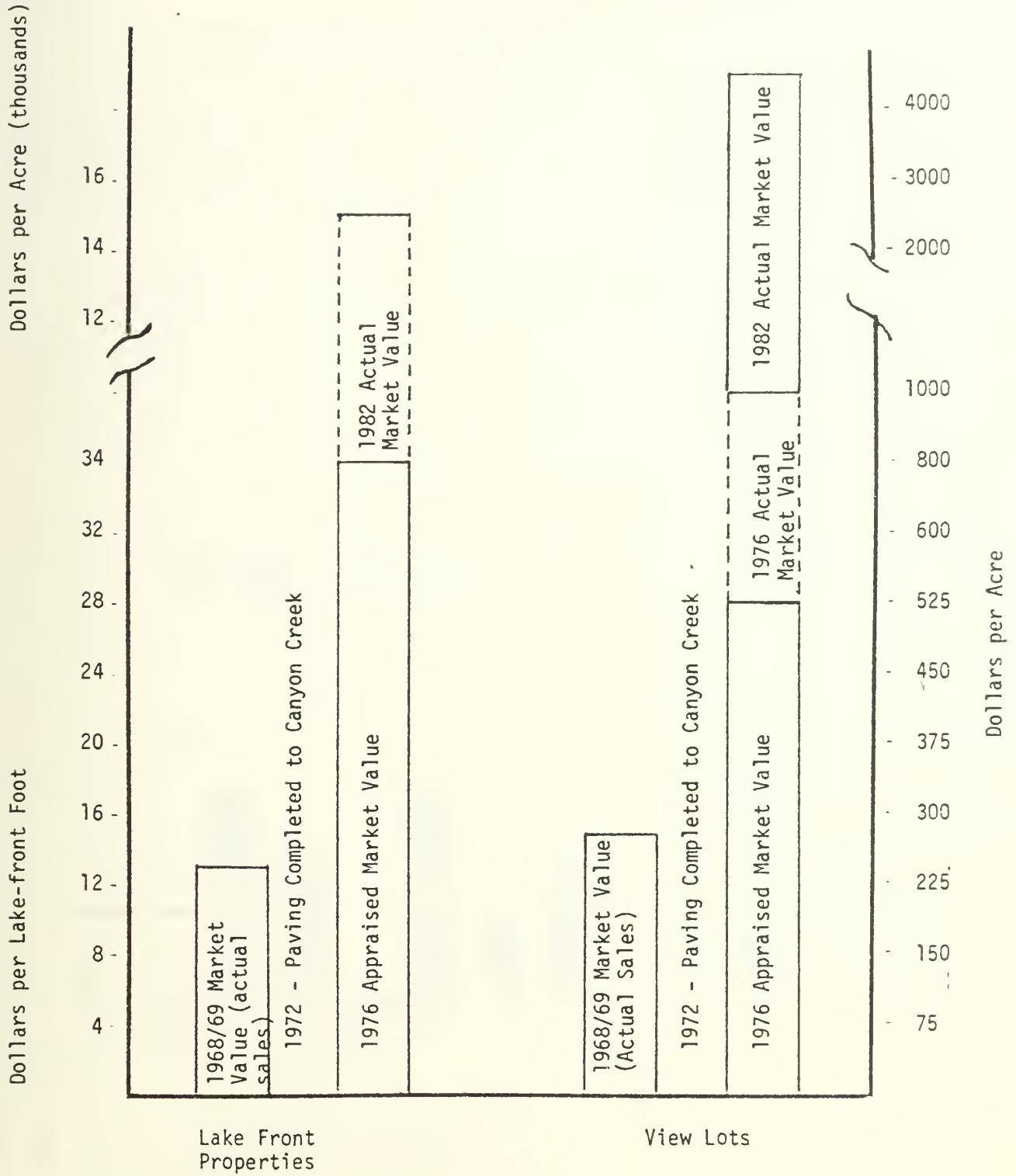
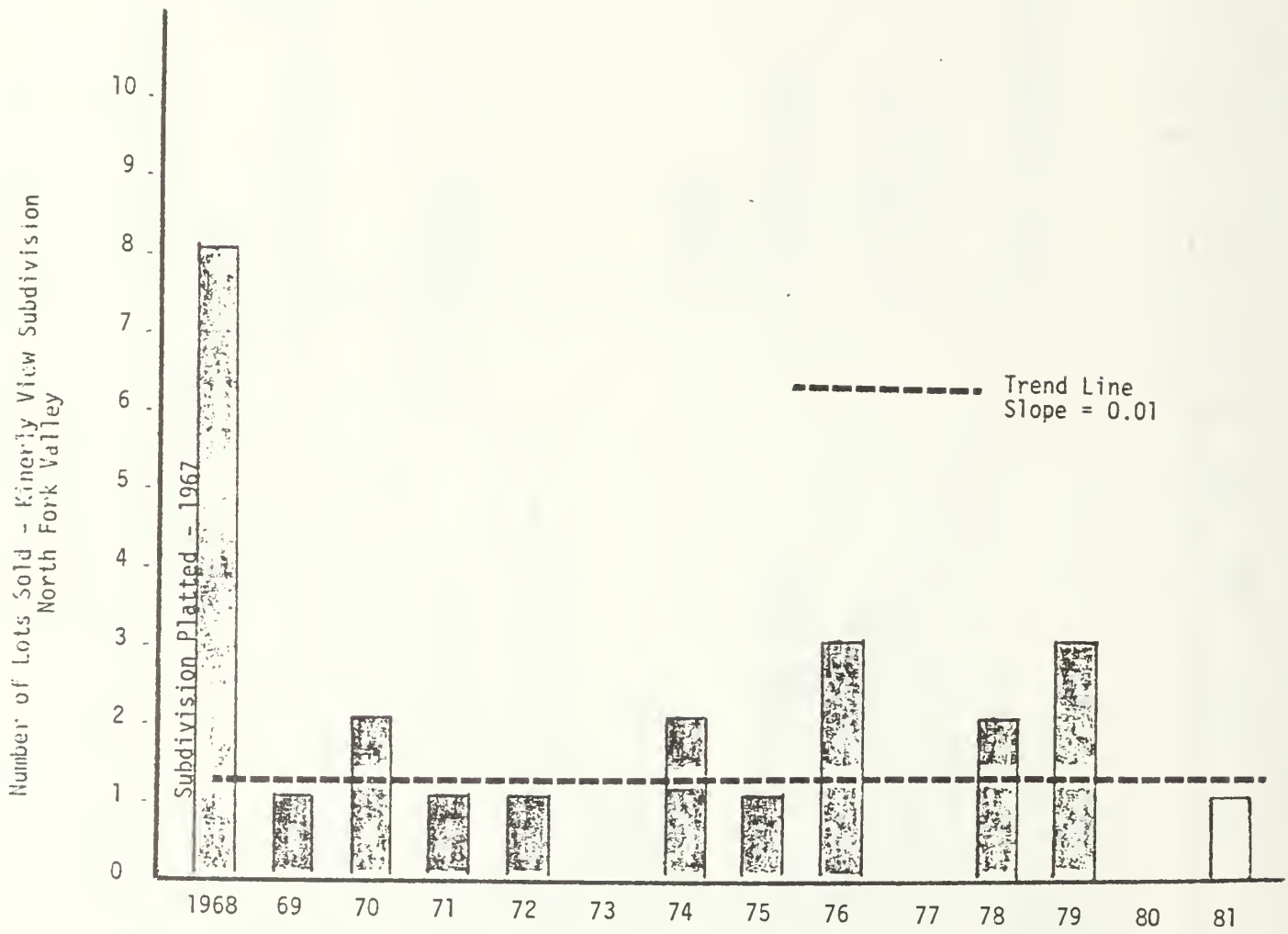


Figure 5

A14



Herbaceous Types		Moisture	Canopy	Predominant species ^②
H1	xeric grass, forb, sage meadow	1-2	2-3	AGSP, FEID, ERFL
H2	mesic grass, forb meadow	3	3-4	FESC, STRI, GEVI
H3	hydric sedge, grass, bog	4	3-4	CAFL, <u>Juncus</u> spp., AGAL
H4	wash forb	1-4	2	DRDR, EPLA, ASMI
H5	marsh	4	3-4	<u>Typha</u> spp.

Shrub Types and Deciduous Woodland

D1	wash shrub	3-4	3-4	POTR, ELCO, <u>Salix</u> spp.
D2	hydric upland shrub	3	4	ALIN, BEGL, CRDO, <u>Salix</u> spp.
D3	mature cottonwood	3	3	POTR
D4	aspen	3	3	<u>Populus tremuloides</u>
D5	mesic upland shrub	2	3	AMAL, PHMA, ACGL
D6	mature cottonwood, spruce hybrid	3	3	POTR, PICEA, COST
D7	subalpine fir krumholtz	2-3	3	MEFE, XETE, ABLA

Coniferous Forest Types

	Predominant canopy species	Canopy	Moisture	Age	Understory species ^②
L1	live lodgepole pine	4	3	1-2	#
L2	live lodgepole pine, western larch	4	3	1-2	#
L3	dead lodgepole pine	4	2-3	1	#
L4	dead lodgepole pine, spruce hybrid	3	3	2-3	CLUN, LIBO, CHUM
L5	dead lodgepole pine	2	2	2	CARU, VACA, ARUV, ACGL
L6	live and dead lodgepole pine	4	2-3	1	#
L7	lodgepole pine savannah	1	2	2-3	AGSP, FEID, FESC
L8	dead lodgepole pine, western larch, Douglas fir	3	2	2	ARUV, CARU, LIBO
L9	dead lodgepole pine, western larch, aspen	3	2	2	AMAL, SYAL, CARU
S1	spruce hybrid bottomland	4	4	3	EQAR, COST, GATR
S2	spruce hybrid, black cottonwood	3-4	3	2-3	COST, ALIN, ELGL
S3	spruce hybrid, dead lodgepole pine	3-4	3	3	CLUN, LIBO, SYAL
S4	spruce hybrid, subalpine fir	4	3	3	CLUN, LIBO, CHUM
S5	spruce hybrid, subalpine fir, western larch	4	3	3	CLUN, LIBO, CHUM
S6	spruce hybrid or subalpine fir	4+	3	1	#
S7	spruce hybrid, Douglas fir; western larch, ponderosa pine, or subalpine fir	4	2-3	3	#
F1	subalpine fir, western white pine	4	3	3	MEFE, XETE, VAGL
F2	subalpine fir, western white pine, western larch	4	3	3	MEFE, XETE, VAGL
F3	subalpine fir, spruce hybrid	4	3	3	CLUN, LIBO, XETE
F4	Douglas fir	4	2	2-3	VACA, CARU, SYAL
F5	Douglas fir, western larch	4	2	2-3	VACA, CARU, ARUV
F6	Douglas fir, ponderosa pine, western larch	3	2	3	undifferentiated grasses, VACA, SYAL
F7	Douglas fir, dead lodgepole pine	3	2	2	ARUV, CARU, LIBO
F8	Douglas fir, live lodgepole pine	4	2	2	#
F9	Douglas fir	4+	2	1	#
F0	Douglas fir scree	2-3	2	4	#
O1	western larch	3-4	2-3	3	#
O2	western larch; spruce hybrid, subalpine fir, or Douglas fir	3-4	2-3	3	#
O3	western larch; spruce hybrid, subalpine fir, or Douglas fir	3-4	2-3	1	#
O4	western larch, live lodgepole pine	4	2-3	1	#
O5	western larch, dead lodgepole pine	4	2-3	1	#
O6	western larch	4	2-3	1	#
O7	western larch, dead lodgepole pine	3	2	2-3	#
M1	Douglas fir, spruce hybrid bottom land	4	3	3	#
M2	Douglas fir, spruce hybrid, cottonwood	4	3	3	#
M3	ponderosa pine	2	2	3	AGSP, FEID, FESC
M4	Douglas fir, ponderosa pine	1	2	3	AGSP, FEID, FESC

	1	2	3	4
moisture	xeric	xeric/mesic	hydric/mesic	hydric
canopy (%)	5-20	20-40	40-70	70-100
age	young	mid-age	old	undifferentiated

^② follows Pfister, et. al. (1977)

undifferentiated understory

*Table 3. A summary of documented unnatural grizzly bear mortality in the contiguous habitats of northwestern Montana from 1971-80.

	Glacier National Park	Perpheral Zone	Other Areas	Total
Area Size (km ²)	4,100	2,725	14,625	21,450
Area Population (%)	19	13	68	100
Bear Density (km ² /bear)	21	39	39-78	34-47
Projected Population Size	195	70	188-375	463-640
Percent of Total Population	30-43	11-15	42-59	100
Annual Losses	1.3	5.3	16.0	22.6
Percent of Annual Total	6	24	70	100
Mean Annual Rate (%)	0.7	7.6	4.3-8.5	3.5-5.0

*Source: Martinka, C.J. 1982. Effects of conterminous land use on grizzly bears in Glacier National Park. Paper presented at the American Association for Advancement of Science, Washington, D.C. January 8, 1982.

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UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

FEDERAL BUILDING
P O BOX 7669
MISSOULA, MONTANA 59807

7710

OCT 19 1982

Mr. Robert Arensdorf
Environmental Section
Direct Federal Highways Projects Office
Federal Highway Administration
555 Zang Street
Denver, CO 80225



Dear Mr. Arensdorf:

Enclosed are the revised text, graphs, and tables for the economic analysis section of the North Fork Flathead E.I.S. The enclosures are the complete package of materials that we suggest be included in the final E.I.S.

In revising these materials we have attempted to incorporate explanations and additional information that respond to public comments received on the draft E.I.S. As discussed in telephone conversations with you subsequent to our August 27 letter, we have amplified the presentation in the areas of maintenance costs, discount rate-sensitivity tests, and benefits-values. While this revision does not answer each specific question, we believe the material is comprehensive enough to satisfy the basic questions.

Some of the graphs and charts may need to be redrafted for clarity of printing for the final document.

If we can be of further assistance, please let us know.

Sincerely,

for BERYL JOHNSTON
Director of Engineering

Enclosures

N. Fork Flathead - FH - 61
Canyon Creek - Camas Junction
Economic Analysis

This economic analysis package includes a separate economic analysis for each of the five alternatives developed by the Study Team. Alternatives range from a do-nothing alternative, which is to continue using the existing road with present maintenance, to a 50-mile per hour paved highway design. The alternatives are as follows:

Alternative A - Existing road with present maintenance.

B - Reconstruct and pave using 50-mph design.

C - Reconstruct and pave using 35-mph design.

D - Reconstruct and gravel surface.

E - Existing road with spot improvement.

The analysis presented here is an economic comparison between the existing road with present maintenance and each of the other "improvement" alternatives. This procedure is appropriate because the analysis does not attempt to justify a road to serve the N. Fork drainage, but rather to determine what type of road between Canyon Creek and Camas Junction is most economical.

The economic indicator calculated for each alternative is Net Present Worth Cost (NPWC). NPWC is valid because the alternatives are mutually exclusive; only one will be chosen. The term "Net" is of particular importance because some alternatives provide more capacity than others. Hence, value forgone is a benefit for alternatives that have higher capacity. The key here is benefits. This study does not deal with the entire spectrum of benefits in the N. Fork. It does however, specifically address those benefits, derived from added users foregone, if Alternative A is the selected alternative.

Value foregone is important here because Alternative A cannot handle the projected traffic demand while all other alternatives can accommodate the demand.

The economic analysis' control data are as follows:

Discount Rate - Sensitivity Tests. The analysis was done using "real interest" rates of 4 and 7-1/8 percent in accordance with FSM 1971.51. The implication of "real rate" is that all costs and benefit dollar values are fixed at the base year values and remain constant. Inflation, therefore, does not influence the analysis.

The 4 percent real discount rate used is that specified by the Forest Service and agreed to by the Office of Management and Budget for long-term investments. In order to evaluate the effects of other interest rates on the proposal, the analysis was also done at the suggested rate of 7-1/8 percent. No calculations were done at 10 percent rate because it is appropriate only to short-term expenditures. The tables and display include the calculation at both discount rates. The proposals can be evaluated at the different traffic projections and discount rates to test the sensitivity of those factors.

Base Year. Fiscal Year 1983 was selected as the base year because 1983 is the probable year of first construction for any improvement alternative.

Analysis Period. A 20-year analysis period was selected because it best represents the life expectancy of any alternative in terms of physical, useful, and economic life of the road.

Traffic data is shown in a following figure. This data was originally developed by Montana Department of Highways and was subsequently modified slightly by the Federal Highway Administration (FHWA) and Forest Service (FS). A key assumption is that the traffic growth projections presented in the figure represent land and resource use activities (demand). In terms of this economic analysis then, there is no benefit directly attributable to road improvement. Hence, the analysis focuses on how well, in economic terms, a particular alternative serves traffic demands of land use alternatives in the N. Fork drainage. It is important to note that the FHWA has established an economic capacity for the existing road (Alternative A) of 300 average daily traffic (ADT). In the economic analysis this value was shifted to 315 ADT for calculation purposes, but it was used as a "cut-off" point. The significance of this is that the existing road cannot accommodate the high projected demand. In this analysis, the demand above 315 ADT was treated as a "value foregone" by Alternative A, the existing road. The actual dollar values of the value foregone were treated as benefits for Alternative B, C, D, and E, and were subtracted from costs to arrive at NPWC for these alternatives.

Cost data was developed in the major categories of construction, maintenance, and user costs by the agencies. Construction costs were estimated by FHWA for each improvement alternative. These costs are found in the analysis forms themselves. Construction costs were lumped for analysis purposes at the base year; F.Y. 1983. In reality however, construction would take place over several seasons and would probably be done by multiple contracts. Lumping the cost at the beginning of the analysis period tends to overstate the present worth costs of those alternatives that have heavy construction.

Maintenance costs were developed by the Forest Service based on comparable experienced costs in the area. The estimated cost of maintaining Alternative A is based on continuing the present maintenance level on the existing road for the projected traffic. The estimated maintenance costs for the other Alternatives (B, C, D, and E) are based on maintaining

the roads, to the standards to which they would be constructed, for the projected traffic. The estimate for Alternative E, for example, will be more than Alternative A because the road is constructed to a higher standard, traffic is greater, and maintenance level is higher than the existing maintenance.

Road user costs were developed by the Forest Service and are shown on an accompanying figure. Log truck operating costs are taken directly from FSH 7709.53b and are based on a standard highway-type log truck operation on the various geometry and surface-types of the alternatives. Logging associated and other users cost were developed from estimates of typical vehicles characteristics and cost, as related to the road characteristics of each alternative.

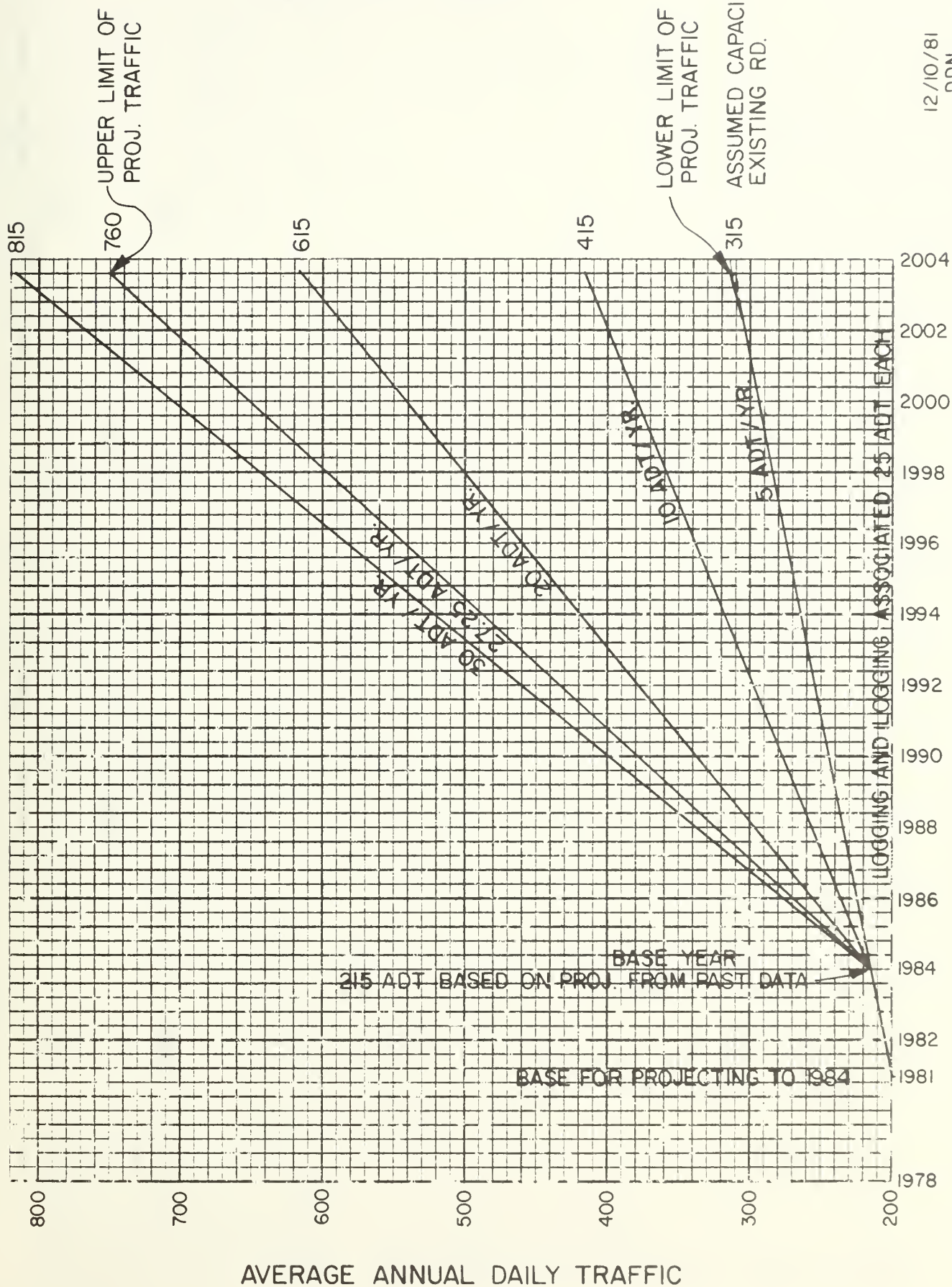
The benefits and benefit values, and how they were handled in the analysis are shown on the following pages. For this analysis, the only benefits are those associated with increased users for those alternatives that can accommodate more users. Since the economic indicator for this analysis is NPWC, the value of additional users was subtracted from cost to produce a realistic "Net present worth cost." It was assumed that Alternative A had an economic capacity of 315 ADT. Therefore, Alternatives B, C, D, and E had assigned benefits for traffic above 315 ADT that would be foregone with Alternative A.

A value of \$3 per RVD was assigned as the estimated benefit value. This value is the Region 1 Forest Service benefit value for dispersed or developed recreation used for planning purposes. The \$3 per person value is not a net value. It is the estimated value to the user over and above the cost of participation and is often described as a willingness to pay value. It is the lowest Recreation Visitor Day (RVD) value (range is \$3 to \$21) which could be assigned to users and is both conservative and appropriate for this analysis.

Although other ways of analyzing the alternatives were considered, it seems that the values and proceeds used here are an appropriate way to maintain comparability between the alternatives. Therefore, the analysis of alternatives is consistent and we believe appropriate.

TRAFFIC PROJECTIONS
N. FK. FLATHEAD — FH-61
CANYON CR.—CAMAS

12/10/81
DDN



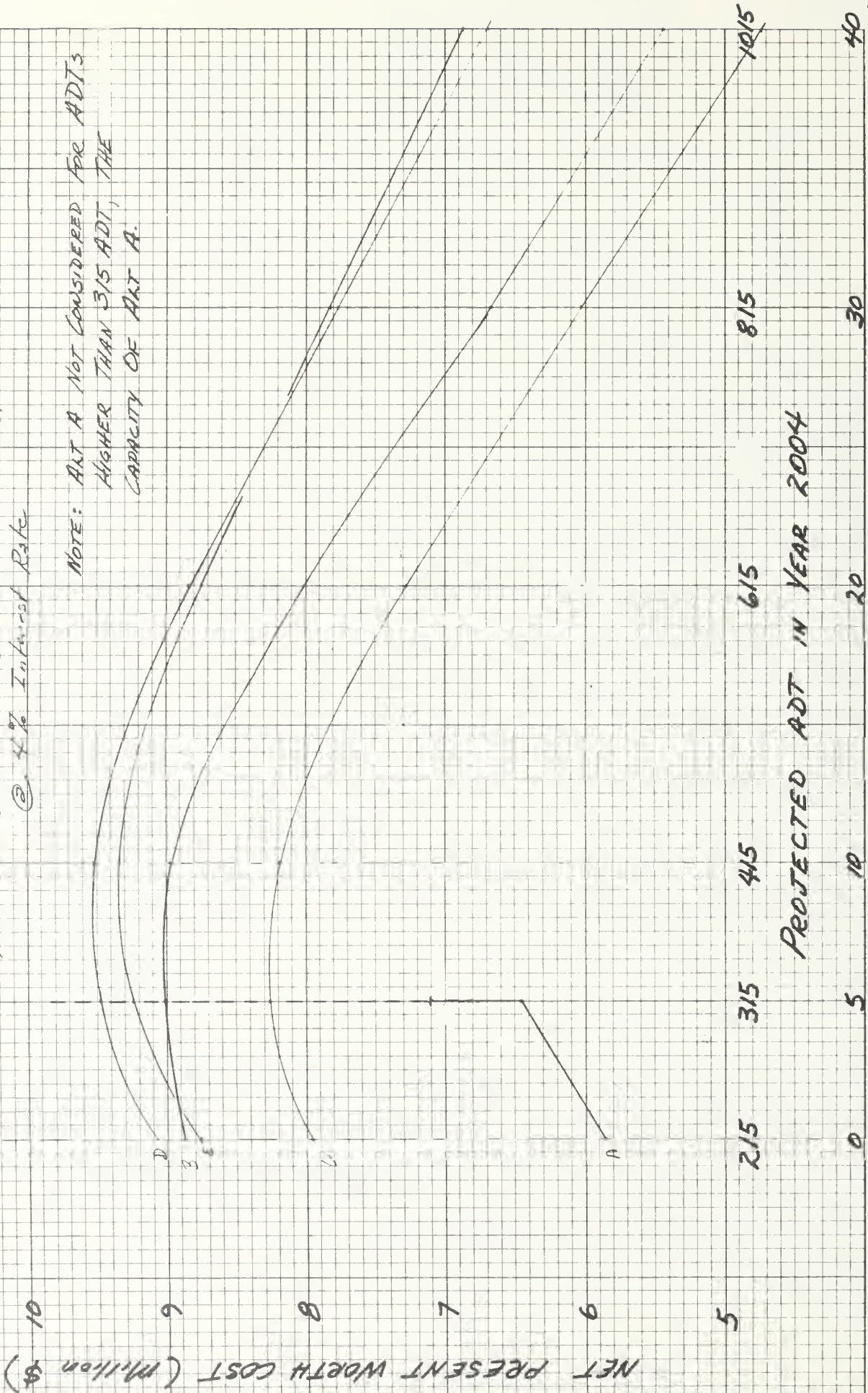
GRAPH No. 1

A23

5/12/84
WFB

NORTH FORK FLATHEAD - FH 61
CANYON CR 10 CANYON JUNCTION 10 miles
NET PRESENT WORTH COST VS ADT
② 4% Interest Rate

NOTE: ALT A NOT CONSIDERED FOR ADT'S
HIGHER THAN 315 ADT, THE
CAPACITY OF ALT A.



PROJECTED ADT IN YEAR 2004

TRAFFIC GROWTH RATE TO ACHIEVE ADT IN YEAR 2004 (ADT/YR)

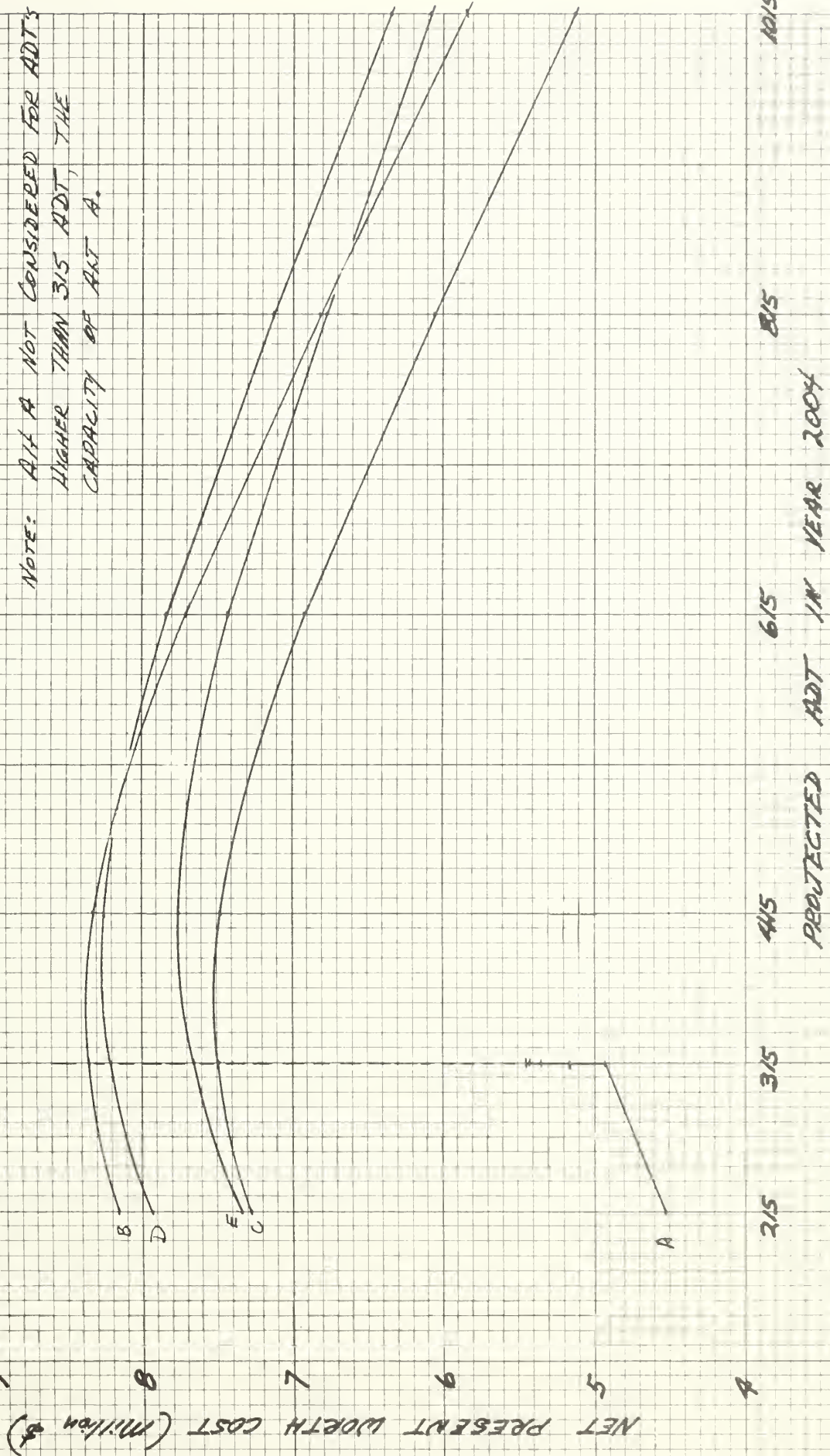
GRAPH NO 1A

A24

8/25/82
WAS

NORTH FORK FLATHEAD - FH#61
CANYON CR - CANALS (10 miles)
NET PRESENT WORTH COST IS ADT @ 7 1/8 % Interest

NOTE: AIT A NOT CONSIDERED FOR ADT'S
HIGHER THAN 315 ADT, THE
CAPACITY OF AIT A.



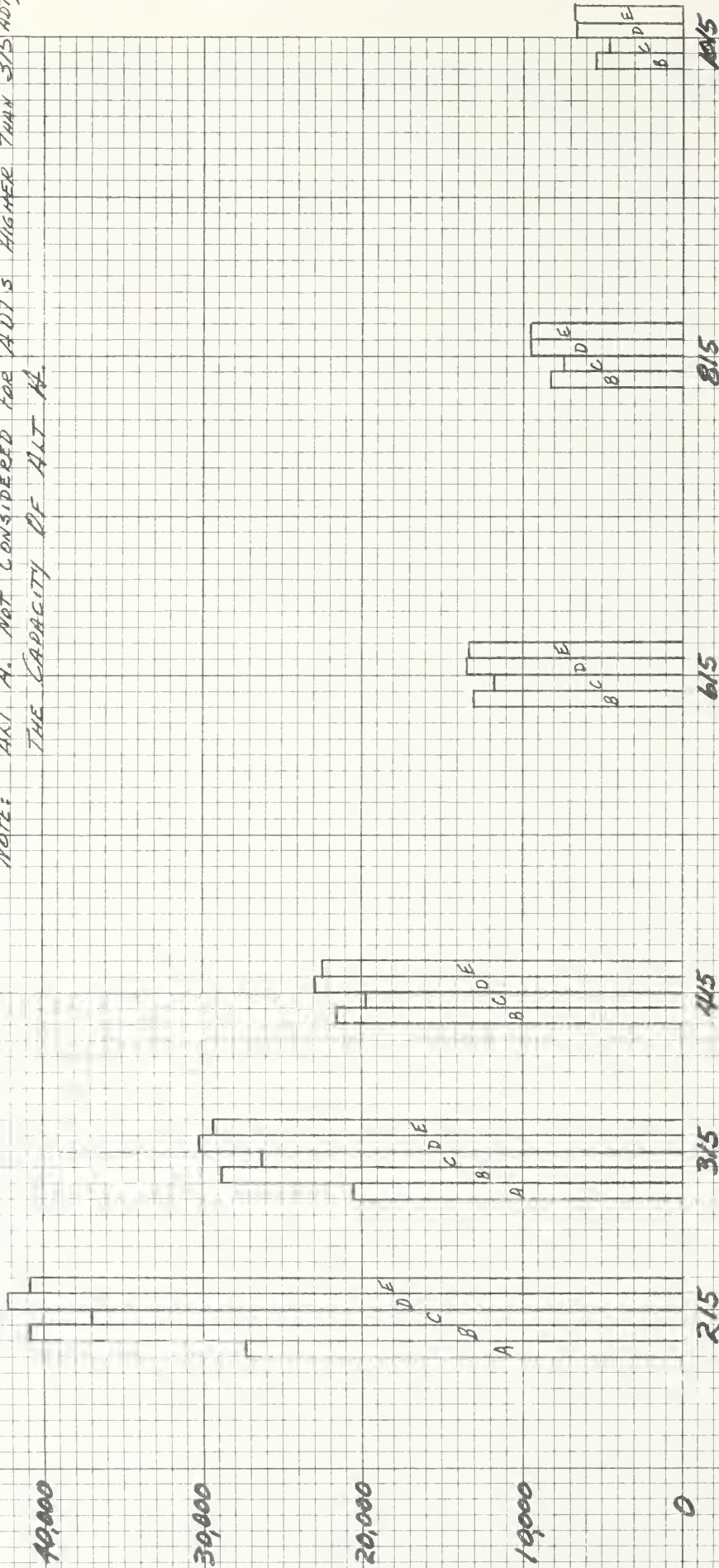
GRAPH NO 2

A25

Bl/8/02
WPS

NORTH FORK FLATHEAD - FH 61
CANYON CR TO CANYON INTERSECTION 10 miles
ALTERNATIVE COMPARISON AT VARIOUS PROJECTED ADTs
@ 4% Interest Rate.

NOTE: ALT A. NOT CONSIDERED FOR ADTs HIGHER THAN 315 ADT,
THE CAPACITY OF ALT A.



PROJECTED ADT IN YEAR 2004

DOLLARS PER ADT

(NET PW COST ÷ PROJECTED ADT IN 2004)

10,000

20,000

30,000

40,000

50,000

8/25/82
WFE

NORTH FORK FATHHEAD FH 61

CAUTION CR - CANNING JUNCTION (10 miles)

ALTERNATIVE COMPARISON AT VARIOUS PROTECTED ADT'S

@ 7 1/8% INTEREST

40,000

30,000

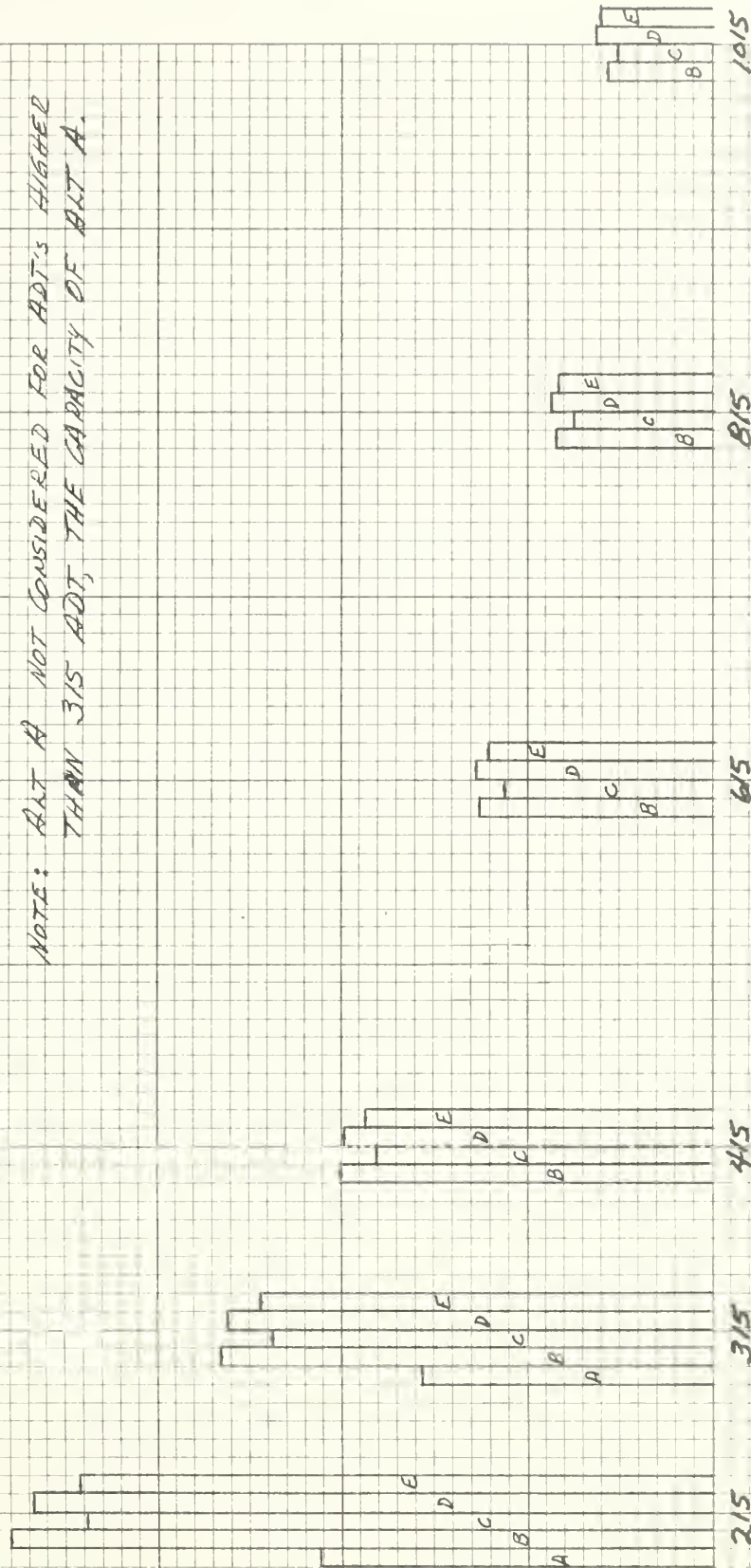
20,000

10,000

0

DOLLARS PER ADT

NOTE: ALT A NOT CONSIDERED FOR ADT'S HIGHER THAN 315 ADT, THE CAPACITY OF ALT A.



PROTECTED ADT IN YEAR 2004

ANNUAL MAINTENANCE COST ESTIMATES

12/10/81 DDN

NORTH FORK FLATHEAD - FH 61 - CANYON CREEK-CAMAS JUNCTION

ALT. C - 28' PAVED

ALT. B - 30' PAVED-50

ALT. A - EXISTING ROAD WITH
PRESENT MAINTENANCE

ITEM	FREQ.	UNIT COST	TOTAL ANN. COST	FREQ.	UNIT COST	TOTAL ANN. COST	FREQ.	UNIT COST	TOTAL ANN. COST
1. BLADING	6/YR	\$230/Mile	\$ 13,800	--	---	---	--	---	---
2. ROCK RAKE	2/YR	\$52/Mile	\$ 1,040	--	---	---	--	---	---
3. DUST ABATEMENT	--	---	---	--	---	---	--	---	---
4. CULVERT CLEANING	22 EA	\$ 11 EA	\$ 242	5/YR	\$ 11 EA	\$ 55	5 EA	\$11 EA	\$ 55
5. CULVERT REPAIR	5 EA	\$ 50 EA	\$ 250	--	---	---	--	---	---
6. BRUSHING	Every 3rd YR	\$ 383/Mile	\$ 1,277	Every 6th YR	\$ 383/Mile	\$ 638	Every 6th YR	\$ 383/Mile	\$ 638
7. SNAG & LOG REMOVAL	Annual	\$ 41/Mile	\$ 410	Annual	\$ 20/Mile	\$ 200	Annual	\$ 20/Mile	\$ 200
8. SLIDE REMOVAL	50 CY Annual	\$12.25/CY	\$ 613	70 CY Annual	\$12.25/CY	\$ 858	50 CY Annual	\$12.25/CY	\$ 613
9. SUBGRADE REPAIR	500 CY Annual	\$ 15/CY	\$ 7,500	--	---	---	--	---	---
10. SURF. REPLACEMENT	500 CY Annual	\$ 10/CY	\$ 5,000	--	---	---	--	---	---
11. SIGN MAINT.	5 EA	\$ 25 EA	\$ 125	3 EA	\$ 25/EA	\$ 75	3 EA	\$ 25 EA	\$ 75
12. SHOULDER MAINT.	--	---	---	10 MI.	\$ 150/Mile	\$ 1,500	10 MI.	\$ 100/Mile	\$ 1,000
13. POTHOLE PATCHING	--	---	---	13 Ton	\$ 30/Ton	\$ 390	12 Ton	\$ 30/Ton	\$ 360
14. CHIP SEAL	--	---	---	Every 5 YRS	\$12,900/Mi.	\$25,800	Every 5 YRS	\$12,000/Mi.	\$24,000
15. STRIPING	--	---	---	Every 5 YRS	\$ 0.07/Ft.	\$ 739	Every 5 YRS	\$ 0.7/L. Ft.	\$ 739
Subtotal			\$ 30,257			\$30,255			\$27,680
16. OVERHEAD (35%)			10,590			10,589			9,688
Total			\$ 40,847			\$40,844			\$37,368

ANNUAL MAINTENANCE COST ESTIMATES
NORTH FORK FLATHEAD - FH 61 - CANYON CREEK-CAMAS JUNCTION

12/10/81 DDN

ITEM	ALT. D - GRAVEL			ALT. E - SPOT RECONSTRUCTION		
	FREQ.	UNIT COST	TOTAL ANN. COST	FREQ.	UNIT COST	TOTAL ANN. COST
1. BLADING	3/YR	\$230/Mile	\$ 6,900	6/YR	\$230/Mile	\$ 13,800
2. ROCK RAKE	--	---	---	5.6 MI. 3/YR	\$52/Mile	\$ 874
3. DUST ABATEMENT	2/YR	\$2,200/Mile	\$ 44,000	3/YR	\$2,200/Mile	\$ 66,000
4. CULVERT CLEANING	11 EA	\$ 11 EA	\$ 121	11 EA	\$ 11 EA	\$ 121
5. CULVERT REPAIR	1 EA	\$ 50 EA	\$ 50	1 EA	\$50 EA	\$ 50
6. BRUSHING	Every 6th YR	\$ 383/Mile	\$ 638	Every 6 YRS	\$ 383/Mile	\$ 638
7. SNAG & LOG REMOVAL	Annual	\$ 20/Mile	\$ 200	Annual	\$ 20/Mile	\$ 200
8. SLIDE REMOVAL	50 CY Annual	\$12.25/CY	\$ 613	30 CY Annual	\$12.25/CY	\$ 368
9. SUBGRADE REPAIR	50 CY	\$ 15/CY	\$ 750	300 CY Annual	\$15/CY	\$ 4,500
10. SURF. REPLACEMENT	3911 CY	\$ 10/CY	\$ 39,110	3900 CY Annual	\$ 10/CY	\$39,000
11. SIGN MAINT.	3 EA	\$ 25 EA	\$ 75	3 EA Annual	\$ 25/EA	\$ 75
12. SHOULDER MAINT.	--	---	---			
13. POTHOLE PATCHING	--	---	---			
14. CHIP SEAL	--	---	---			
15. STRIPING	--	---	---			
16. OVERHEAD (35%)			\$ 92,457 32,360 \$124,817			\$124,900 43,720 \$168,595

USER COST ESTIMATE
CANYON CREEK-CAMAS RD. (10 MILES)

12/11/81 DDN

USER GROUPS	ALTERNATE A EXISTING ROAD	ALTERNATE B 30' PAVED 50 MPH DESIGN	ALTERNATE C 28' PAVED 35 MPH	ALTERNATE D 28' GRAVEL 35 MPH	ALTERNATE E SPOT IMPROVEMENT GRAVEL SURFACE
LOG TRUCK HAUL CLASS COST	* 177 \$7.64/MBF	*1 \$2.70	*9 \$2.80/MBF	*41 \$4.20/MBF	*73 \$5.10
LOGGING ASSOC.					
FUEL (\$1.30/Gal.)	7 MPG	12 MPG	10 MPG	8.5 MPG	8 MPG
TIRES (\$400/Set)	10,000 MI/SET	20,000 MI/SET	20,000 MI/SET	15,000 MI/SET	12,000 MI/SET
VEHICLE WEAR (\$10,000 Vehicle)	40,000 MI. LIFE	80,000 MI. LIFE	70,000 MI. LIFE	60,000 MI. LIFE	50,000 MI. LIFE
TOTAL TRIP COST	\$4.75	\$2.53	\$2.93	\$3.47	\$3.96
OTHER USERS					
FUEL (\$1.30/Gal.)	13 MPG	25 MPG	22 MPG	18 MPG	16 MPG
TIRES (\$300/Set)	12,000 MI/SET	35,000 MI/SET	30,000 MI/SET	20,000 MI/SET	16,000 MI/SET
VEHICLE WEAR (\$8,000 Vehicle)	50,000 MI. LIFE	110,000 MI. LIFE	100,000 MI. LIFE	70,000 MI. LIFE	60,000 MI. LIFE
TOTAL TRIP COST	\$2.85	\$1.34	\$1.49	\$2.01	\$2.31

* NOTE: From Forest Service Handbook 7709.538

PRESENT WORTH COMPARISONS

NORTH FORK FLATHEAD - FH 61 - CANYON CREEK-CAMAS (10 miles)

4% INTEREST RATE

		TRAFFIC VOLUME IN YEAR 2004					
ALTERNATIVES		215 ADT	315 ADT	415 ADT	615 ADT	815 ADT	1015 ADT
ALT. "A" EXISTING RD. PRESENT MAINT.	PWC-Const, Mtc, Existing Users	5,864,792	5,864,792	5,864,792	5,864,792	5,864,792	5,864,792
	PWC-Increased Users	0	580,224	* 922,757	*1,128,671	*1,209,413	*1,235,817
	Total PWC	5,864,792	6,445,016	6,787,549	6,993,463	7,074,205	7,100,609
	PW Benefits	0	0	0	0	0	0
	Net PWC	5,864,792	6,445,016	6,787,549	6,993,463	7,074,205	7,100,609
ALT. "B" 30' PAVED 50 MPH	PWC-Const, Mtc, Existing Users	8,804,434	8,804,434	8,804,434	8,804,434	8,804,434	8,804,434
	PWC-Increased Users	0	272,876	545,639	1,091,280	1,636,920	2,182,560
	Total PWC	8,804,434	9,077,310	9,350,073	9,895,714	10,414,354	10,986,994
	PW Benefits	0	0	376,180	1,883,060	3,765,431	5,731,406
	Net PWC	8,804,434	9,077,310	8,973,893	8,012,654	6,675,923	5,255,588
ALT. "C" 28' PAVED 35 MPH	PWC-Const, Mtc, Existing Users	7,965,868	7,965,868	7,965,868	7,965,868	7,965,868	7,965,868
	PWC-Increased Users	0	303,360	606,720	1,213,440	1,820,157	2,426,876
	Total PWC	7,965,868	8,269,228	8,572,588	9,179,308	9,786,025	10,329,744
	PW Benefits	0	0	376,180	1,883,060	3,765,431	5,731,406
	Net PWC	7,965,868	8,269,228	8,196,408	7,296,248	6,020,594	4,661,338
ALT. "D" 28' GRAVEL 35 MPH	PWC-Const, Mtc, Existing Users	9,084,468	9,084,468	9,084,468	9,084,468	9,084,468	9,084,468
	PWC-Increased Users	0	409,202	818,404	1,636,808	2,455,380	3,273,859
	Total PWC	9,084,468	9,493,670	9,902,872	10,721,276	11,539,848	12,358,307
	PW Benefits	0	0	376,180	1,883,060	3,765,431	5,731,406
	Net PWC	9,084,468	9,493,670	9,526,692	8,838,216	7,774,417	6,626,901
ALT. "E" SPOT IMPROV. 28' GRAVEL	PWC-Const, Mtc, Existing Users	8,767,368	8,767,368	8,767,368	8,767,368	8,767,368	8,767,368
	PWC-Increased Users	0	470,337	940,674	1,881,347	2,821,854	3,762,472
	Total PWC	8,767,368	9,237,705	9,708,042	10,648,715	11,589,222	12,529,840
	PW Benefits	0	0	376,180	1,883,060	3,765,431	5,731,406
	Net PWC	8,767,368	9,237,705	9,331,862	8,765,655	7,823,791	6,798,434

*NOTE: Capacity assumed at 315 ADT on Existing Road

PRESENT WORTH COMPARISONS

NORTH FORK FLATHEAD - FH 61 - CANYON CREEK-CAMAS (10 miles)

7-1/8% INTEREST RATE

ALTERNATIVES		TRAFFIC VOLUME IN YEAR 2004					
		215 ADT	315 ADT	415 ADT	615 ADT	815 ADT	1015 ADT
ALT. "A" EXISTING RD. PRESENT MAINT.	PWC-Const, Mtc, Existing Users	4,526,979	4,526,979	4,526,979	4,526,979	4,526,979	4,526,979
	PWC-Increased Users	0	397,616	* 649,116	* 825,010	* 897,377	* 940,294
	Total PWC	4,526,979	4,924,595	5,176,095	5,351,989	5,424,356	5,467,273
	PW Benefits	0	0	0	0	0	0
	Net PWC	4,526,979	4,924,595	5,176,095	5,351,989	5,424,356	5,467,273
ALT. "B" 30' PAVED 50 MPH	PWC-Const, Mtc, Existing Users	8,168,576	8,168,576	8,168,576	8,168,576	8,168,576	8,168,576
	PWC-Increased Users	0	186,958	373,917	747,834	1,121,751	1,495,668
	Total PWC	8,168,576	8,355,534	8,542,493	8,916,410	9,290,327	9,664,244
	PW Benefits	0	0	225,844	1,208,226	2,478,870	3,822,648
	Net PWC	8,168,576	8,355,534	8,316,649	7,708,184	6,811,457	5,841,596
ALT. "C" 28' PAVED 35 MPH	PWC-Const, Mtc, Existing Users	7,289,326	7,289,326	7,289,326	7,289,326	7,289,326	7,289,326
	PWC-Increased Users	0	207,887	415,773	831,547	1,247,320	1,663,093
	Total PWC	7,289,326	7,497,213	7,705,099	8,120,873	8,536,646	8,952,419
	PW Benefits	0	0	225,844	1,208,226	2,478,870	3,822,648
	Net PWC	7,289,326	7,497,213	7,479,255	6,912,647	6,057,776	5,129,771
ALT. "D" 28' GRAVEL 35 MPH	PWC-Const, Mtc, Existing Users	7,924,654	7,924,654	7,924,654	7,924,654	7,924,654	7,924,654
	PWC-Increased Users	0	280,438	560,875	1,121,751	1,682,626	2,243,502
	Total PWC	7,924,654	8,205,092	8,485,529	9,046,405	9,607,280	10,168,156
	PW Benefits	0	0	225,844	1,208,226	2,478,870	3,822,648
	Net PWC	7,924,654	8,205,092	8,259,685	7,838,179	7,128,410	6,345,508
ALT. "E" SPOT IMPROV. 28' GRAVEL	PWC-Const, Mtc, Existing Users	7,337,724	7,337,724	7,337,724	7,337,724	7,337,724	7,337,724
	PWC-Increased Users	0	322,294	644,588	1,289,176	1,933,764	2,578,353
	Total PWC	7,337,724	7,660,018	7,982,312	8,626,900	9,271,488	9,916,077
	PW Benefits	0	0	225,844	1,208,226	2,478,870	3,822,648
	Net PWC	7,337,724	7,660,018	7,756,468	7,418,674	6,792,618	6,093,429

*NOTE: Capacity assumed at 315 ADT on Existing Road

MODERN MATHEMATICS CALCULATION FORM I

U.S. DEPARTMENT OF JUSTICE

Existing Road With Present Maint.

BASE INTEREST RATE - 4.25%

SENSITIVITY TEST RATES

7/8

P.Y. Analysis	
Begins -	83
F.Y. Value	No. of
Begins	P.Y.'s

Total Cost	Type of Cash Flow
2	2

COST CALCULATIONS:

[illegible]

TOTAL PRESENT WORTH COST \$6,445,016

4,924,595

A-26

BENEFIT CALCULATIONS:

No Benefits Calculated For Alternative A

TOTAL PRESENT WORTH BENEFITS =

NET PRESENT WORTH -

(Contd)

1

1/ Use one sheet for each alternative.

1/ Use one sheet for each alternative.
2/ Code SP for Single Payment; US for Uniform Series; GS for Gradient Series

(Cost)

-30 (7/7)

RI-7700-30 (7/77)

TRANSPORTATION SYSTEM ECONOMIC ANALYSIS
DATA ASSEMBLY FORM 1/

ALTERNATIVE NO. B COST DATA

Low A

ALTERNATIVE NO. *B* BENEFIT DATA

INCREASED USERS
ABOVE CAPACITY

2/ Code SP for single payment, US for uniform series.

TRANSPORTATION SYSTEM ECONOMIC ANALYSIS
DATA ASSEMBLY FORM 1/A36
Page 1 of 2DON
12/10/81ALTERNATIVE NO. C COST DATA 28' PAVED - 35 MPH

Item	Unit of Measure	Type of Cash Flow <u>2/</u>	Beginning in F.Y.	No. of F.Y.'s	No. of Units/Yr.	Cost Per Unit	Source of Data	Total \$
Example: Surveys	Crew Days	S.P.	80	1	100	\$200	Eng. Est	20,000
Maintenance	Miles	U.S.	82	16	108	\$250	For. Avg	2,000
CONSTRUCTION	TOTAL	SP	83	1	1	5,000,000	FHWA	5,000,000
MAINTENANCE	TOTAL ANNUAL	US	84	20	1	37,368	FS Est.	37,368
USER COST:								
LOG TRUCK	ANNUAL MBF	US	84	20	23,000	2.80	" "	64,400
LOGGING ASSOC.	ANNUAL TRAFFIC	US	84	20	9125	2.93	" "	26,736
OTHER USERS	ANNUAL TRAFFIC	US	84	20	60,225	1.49	" "	89,735
Low PRJ. " "	ANNUAL INCR.	GS	84	20	1825	1.49	" "	2719
HIGH PROJECTION " "	ANNUAL INCR.	GS	84	20	9946	1.49	" "	14820

ALTERNATIVE NO. C BENEFIT DATA

Item	Unit of Measure	Type of Cash Flow <u>2/</u>	Beginning in F.Y.	No. of F.Y.'s	No. of Units/Yr.	Cost Per Unit	Source of Data	Total \$
Example: Disp Rec	V.D.	U.S.	82	16	75	\$2.80	Mont. Trav. St.	210
Timber	MBF	U.S.	83	5	500	172.85	RPA Supp APP	86,425
INCREASED USERS ABOVE ALT. A	ANNUAL RVD INCREASE	GS	88	16	14,919	3.00	FS Est.	44,757

1/ Use one sheet for each alternative.

2/ Code SP for single payment, US for uniform series.

USDA-FOREST SERVICE

TRANSPORTATION SYSTEM ECONOMIC ANALYSIS
DATA ASSEMBLY FORM 1/12/10/81
DDNALTERNATIVE NO. D COST DATA 28' GRAVEL SURFACE 35 MPH

Item	Unit of Measure	Type of Cash Flow <u>2/</u>	Beginning in F.Y.	No. of F.Y.'s	No. of Units/Yr.	Cost Per Unit	Source of Data	Total \$
Example: Surveys	Crew Days	S.P.	80	1	100	\$200	Eng. Est	20,000
Maintenance	Miles	U.S.	82	16	108	\$250	For. Avg	2,000
CONSTRUCTION	TOTAL	SP	83	1	1	4,000,000	FHWA	4,000,000
MAINTENANCE	ANNUAL TOTAL	US	84	20	1	124,817	FS EST.	124,817
USER COSTS:								
LOG HAUL	ANNUAL	US	84	20	23,000	4.20	FS EST.	96,600
LOGGING ASSOC.	ANNUAL TRAFFIC	US	84	20	9125	3.47	" "	31,664
OTHER USERS	ANNUAL TRAFFIC	US	84	20	60225	2.01	" "	121,052
LOW PROJ. HIGH PROJ.	ANNUAL INCR.	GS	84	20	1825	2.01	" "	3668
"	ANNUAL INCR.	GS	84	20	9946	2.01	" "	19991

ALTERNATIVE NO. D BENEFIT DATA

Example: Disp Rec	V.D.	U.S.	82	16	75	\$2.80	Mont. Trav. St.	210
Timber	MBF	U.S.	83	5	500	172.85	RPA Supp APP	86,425
INCREASED USERS	ANNUAL INCREASE							
ABOVE CAPACITY	RVD	GS	88	16	14919	3.00	FS EST.	44757

1/ Use one sheet for each alternative.2/ Code SP for single payment, US for uniform series.

1000
10/01/21

18/5/11

ALT. "D" - 28' GRAVEL SURFACE - 35 MPH

7/8	
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SENSITIVITY TEST RATES

BASF INTEREST RATE = 4%

F.Y. Analysis Begins -	83	F.Y. Value No. of Begins F.Y.'s
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F.Y. Analysis Begins -	83	F.Y. Value No. of Begins F.Y.'s
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F.Y. Analysis Begins -	83	F.Y. Value No. of Begins F.Y.'s
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F.Y. Analysis Begins -	83	F.Y. Value No. of Begins F.Y.'s
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Total Cost	Type of Cash Flow
2/	2/

Type of Cash Flow

COST CALCULATIONS:

CONSTRUCTION	4,000,000	S.P	83	1	1	4,000,000	1.0	4,000,000
MAINTENANCE	124,817	U.S.	84	20	13.59	1,696,263	10.49	1,309,330
USER COSTS:								
LOG TRUCK	96,600	U.S.	84	20	13.59	1,312,794	10.49	1,013,334
LOGGING ASSOC.	316,664	U.S.	84	20	"	430,344	10.49	332,155
OTHER USERS	121,052	U.S.	84	20	"	1,645,097	10.49	1,269,835
ANNUAL INCREASE	3668	G.S.	84	20	111.56	409,202	76.45	280,418
ANNUAL INCREASE	"	G.S.	84	20	111.56	2,230,195	76.45	1,528,311

464
low

8,205,072
• 451,965

8,205,072
• 451,965

54A-32

TOTAL PRESENT WORTH COST = 9,493,670 Low Prod.
11,314,663 High Prod.

BENEFIT CALCULATIONS:

[illegible]

TOTAL PRESENT WORTH BENEFITS -

NET PRESENT WORTH = $\frac{2,975,048}{(1.08)^0} - \frac{11,314,663}{(1.08)^{10}} - 8,339,615$

1/ Use one sheet for each alternative.

2/ Code SP for Single Payment; US for Uniform Series

(011112000) (011112000)

(Benefita) (Contd)

81-7700-30 (7/77)

TRANSPORTATION SYSTEM ECONOMIC ANALYSIS
DATA ASSEMBLY FORM 1/A40
Page 1 of 212/10/81
DONALTERNATIVE NO. E COST DATA

Item	Unit of Measure	Type of Cash Flow <u>2/</u>	Beginning in F.Y.	No. of F.Y.'s	No. of Units/Yr.	Cost Per Unit	Source of Data	Total \$
Example: Surveys	Crew Days	S.P.	80	1	100	\$200	Eng. Est	20,000
Maintenance	Miles	U.S.	82	16	108	\$250	For. Avg	2,000
CONSTRUCTION	TOTAL	S.P	83	1	1	2,500,000	FHWA	2,500,000
MAINTENANCE	ANNUAL TOTAL	US	84	20	1	168,620	FS Est.	168,620
USER COST:								
LOG TRUCK	ANNUAL MBF	US	84	20	23,000	5.10	FS Est.	117,300
LOGGING ASSOC.	ANNUAL TRAFFIC	US	84	20	9125	3.96	FS Est.	36,135
OTHER USERS	ANNUAL TRAFFIC	US	84	20	60,225	2.31	FS Est.	139,120
Low Proj. "	"	ANNUAL INCREASE	84	20	1825	2.31	FS Est.	4216
High Proj. " "	"	ANNUAL INCREASE	84	20	9946	2.31	FS Est.	22,975

ALTERNATIVE NO. E BENEFIT DATA

Item	Unit of Measure	Type of Cash Flow <u>2/</u>	Beginning in F.Y.	No. of F.Y.'s	No. of Units/Yr.	Cost Per Unit	Source of Data	Total \$
Example: Disp Rec	V.D.	U.S.	82	16	75	\$2.80	Mont. Trav. St.	210
Timber	MBF	U.S.	83	5	500	172.85	RPA Supp APP	86,425
INCREASE USERS	ANNUAL RVD	GS	88	16	14919	3.00	FS Est.	44757
ABOVE CAPACITY	INCREASE							

1/ Use one sheet for each alternative.

2/ Code SP for single payment, US for uniform series.

